



College AND UNIVERSITY Business

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IVORY TOWERS ARE OBSOLETE

DAVID D. HENRY

President, Wayne University

SUCH PHRASES AS "TOWN AND GOWN," "IVORY tower," "academic isolation" are symptoms of a traditional lack of concern on the part of colleges with the problems and interests of the larger constituency. These terms must become obsolete through disuse if we are to obtain the buildings and personal services needed for an expanding program of higher education.

In the past the channels of communication and service from our universities to our communities have been chiefly through the instructional program: (1) through the program of instruction for regular students; (2) through the adult education, or extension, program. Through the latter, many institutions have organized institutes, conferences, workshops and other informal educational activities in order to reach specialized groups with specialized needs.

The philosophy upon which these special services have been organized should be more clearly defined and more adequately implemented so that a greater proportion of the people have a feeling of personal pride of association in the work of the university.

Further, more representatives of the general public should be involved in appraising the university program, in counseling on new programs and services, and in sharing in general institutional activities. Advisory committees and informal conferences, as well as formal programs which are open to all who are interested, are but a few of the devices for giving a larger portion of the community a feeling of personal responsibility for, and connection with, the university.

I conceive of the breaking down of the barriers between institution and community as being more than a broad-gauged public relations program of specific benefit to the institution. It is a means of being of greater service in the solution of the social problems of our day. All about us are storm centers springing out of group conflicts and civic disunity. Social tensions are marked. In this

setting the university can and should be an instrument of harmonization. I have no illusions that it can do the whole task, but it can have a major part in building civic unity through providing leadership and resources which will rally the forces required to solve the problems of our day. The university is one agency that can have acceptance by all the divergent elements of a complex society. As a neutral center where all groups can converge, there is an opportunity for working on some of the problems that can find a common meeting ground nowhere else.

Whether the issues have to do with race problems or religious conflicts or friction among nationality groups or quarrels between management and labor or economic problems in general, there is the possibility that the parties to these divergences can be brought together under the influence of the university.

There are those who wish to build a wall around the university, timorously feeling that it is dangerous to be involved in the stresses of community life and that being so involved is irrelevant to educational objectives. For one, I believe that *as long as we hold to educational premises and objectives and scholarly behavior and do not become identified with partisanship or vested-interest causes*, the staff of a university can make a contribution to civic welfare which will in turn bring greater understanding of the university's worth.

To get the community to understand what a university is and to have pride and satisfaction in having a university in its midst is the most important single task of the university administrator. And it is not enough to acknowledge this point of view and then relegate its implementation to the extension division. The whole institution must be geared to this philosophy so that it applies to English and chemistry, to elementary and advanced instruction, as well as to the evening or adult education programs, now most understood.



College AND UNIVERSITY Business

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In this issue:

Ivory Towers Are Obsolete.....	op. 1
DAVID D. HENRY	
Ten Principles of Business Management.....	3
CLARENCE SCHEPS	
Tour of a Campus Hollywood.....	6
ROBERT W. WAGNER	
The First Year's Story of a Nonacademic Personnel Department	8
J. N. EWART	
We Found Better Ways of Saying "Keep Off the Grass".....	11
J. J. WENNER	
Trends in Enrollment, Fees, Salaries, Room and Board Charges	12
CHARLES W. HOFF	
How About Investment Company Shares as Endowment Holdings?	14
LUCILE TOMLINSON	
Converting Garage Into College.....	16
LOULA N. CANTRELL	
Converting Navy Pier Into College.....	17
JEAN HURT MAURY	
Design for Student Activities for Junior College.....	22
S. ARTHUR AXTENS	
Production Line Methods for Veterans' Billing.....	24
F. E. OLIVER	
Radiant Heating Goes to College.....	27
W. W. BROOKS	
Five Steps to Effective Food Buying.....	29
A. A. FROOMAN	
Shall Town Tax Gown?.....	32
M. M. CHAMBERS	
Looking Forward	33
Questions and Answers.....	34
News of the Month.....	35
Directory of Associations.....	40
What's New	62

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Among the Authors



R. W. WAGNER

ROBERT W. WAGNER, director of motion picture projection at Ohio State University, was a scenario writer and director of the Office of War Information during the war. He produced motion pictures for the State Department and for the army medical corps in South and Central America. Immediately following the war he became chief of the information division of the mental hygiene department for the state of Ohio, accepting his present position in 1946. . . . CLARENCE SCHEPS, executive assistant to the president of Tulane University, is an avid student of university finance and administration. Formerly state supervisor of finance in Louisiana and comptroller of the University of Mississippi, he is now serving as a member of the executive committee of Southern Association of College and University Business Officers. His new book, "College and University Accounting," written for college business officers, will be off the press this fall. To relax, he goes fishing.



J. N. EWART

JAMES N. EWART, director of nonacademic personnel at California Institute of Technology, had considerable experience in business as an advertising and personnel executive before accepting his present position. During the war he served more than three years as a classification and administrative officer of the army air force, then returned to his former business connection as an assistant director of industrial relations before accepting his present appointment. Hobbies: football, Jim Jr., and keeping up with daughter Joan, 16. As a sideline he enjoys refinishing antiques.



LUCILE TOMLINSON

LUCILE TOMLINSON, consultant on investment programming and investment companies, for ten years was associate editor of *Barron's Weekly*, financial publication. For two years she served as executive assistant of the National Association of Investment Companies and is now a member of the finance committee of the alumnae association of Mount Holyoke College. Her book, "Successful Investing Formulas," was published in 1947 by Barron's Publishing Company. Recently married, she announces that her chief interest is in decorating and running a new home but adds, "I fear I have neither special taste nor special skills in this line . . . quite the contrary!"



F. E. OLIVER

FREDERICK EUGENE OLIVER, assistant to the controller and manager of the statistical service department of the State University of Iowa, has always had a flair for finance and statistical work. For three years, "Gene" was assistant business manager of Graceland College, but interrupted his civilian career to become an aerial navigator for the army air force during the war, finishing his navigation training at the head of his class. He has been a member of the staff of the State University of Iowa since November 1945. Spare time?—his two youngsters take care of that.

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PRINCIPLES DO NOT EMERGE FULL grown. Rather, they represent ultimate crystallizations and codifications of theories and practices developed over a long period of evolution.

The business office, as an independent administrative unit, is a comparatively recent development in the American university. In the early days it was customary to distribute business affairs between the governing board and the academic and executive branches of the institution. Each dean or department head did his own buying, frequently from his "share" of the institutional funds, which he kept in his own bank account. Account keeping, if it could be called such, was performed in a similar manner.

As enrollments began to expand, as revenues increased, as auxiliary enterprises grew in size and importance, and as the academic structure of the university became more complicated, business administration began to emerge as a separate and distinct function.

Along with the gradual emergence of the business office as an important administrative unit came the positive enumeration of principles of sound business management and finance. In 1922 the first authoritative book on this subject was published. Written by Trevor Arnett, it was concerned primarily with the financing of the endowed institution. In 1930 Lloyd Morey's "University and College Accounting" appeared and represented the first modern study of university accounting. Since then much of value has been written and published in the general field of institutional business management.

Every business officer is conversant with the work of the Financial Advisory Service of the American Council on Education. The service, established in 1935, was staffed by a group of outstanding leaders and pioneers in the field of university finance. A codification of theories and practices developed out of its many studies and publications, the details of which are now so widely accepted that they may be viewed as the fundamental principles of college business management and finance. In recent years John Dale Russell, in his "The Finance of Higher

From a paper presented before the Southern Association of College and University Business Officers, 1948.

TEN PRINCIPLES OF BUSINESS *Management*

CLARENCE SCHEPS

Assistant to the President
Tulane University

Education," restated and amplified many of these principles.

For convenience, the many principles relating to university business administration and finance have been classified into ten general categories. These will be enumerated and discussed briefly.

1. ACADEMIC RELATIONSHIPS

Education and research, without question, are the primary functions of the university. Successful realization of these functions is possible only through the joint efforts of those responsible for the academic, administrative and financial areas of the institution. Each has its own field of endeavor which should be clearly defined. Unfortunately, one sometimes hears of conflicts between the academic divisions and the business office.

No doubt, both sides have been justified in their criticisms in specific cases. Many fiscal systems are too involved and detailed, demanding too many approvals, signatures and forms. On the other hand, it ought to be understood that the business office has accountabilities and responsibilities to the state, to the public, and to the administration that cannot be disregarded. Frequently, "red tape" is essential to the completeness of the records.

No inherent conflict exists between the business and academic functions

of the university. Both are equally subordinate to the primary aims of the institution, and each contributes to the attainment of these aims. The institution cannot exist without a faculty, but neither can it operate with maximum efficiency without a business office and a sound fiscal system. When a conflict does exist, the intelligent solution of the problem lies in increased efforts toward a sympathetic understanding on the part of both the faculty and business staff.

2. BUSINESS ORGANIZATION

All business and financial functions of the university should be centralized in a single business officer responsible to the president. The more important functions that should be located in the business office include assistance in the preparation and the control of the institutional budget, establishment and operation of a proper system of accounting and reporting, supervision of the operation and maintenance of physical plant, purchasing of supplies and equipment, control of inventories, financial management of auxiliary enterprises, financial supervision of student organizations and loan funds, and management of endowment funds and their investments.

The person at the head of this important office should be appointed by the governing board upon the nomination of the president. He should be

qualified through experience to handle business affairs and suited through temperament to deal with the diverse personalities of the campus and business world with whom he must associate. He should possess an educational philosophy and must realize that the purpose of his office is to give service to the college and to help in the furtherance of its educational program.

3. PURCHASING AND STORES

For the institution that is large enough to justify a separate office for purchasing, as well as for the institution that is so small that its buying can be done by the chief business officer, central purchasing is essential to efficient operation.

Centralized purchasing is desirable for four reasons: (1) it effects important economies through quantity buying and through the elimination of duplicate effort; (2) it makes possible through requisitions an efficient system of budgetary control; (3) it facilitates in great measure the receipt, entry and auditing of invoices and other expenditure documents; (4) it makes possible an audit control over institutional expenditures for supplies and materials by fixing the responsibility for purchasing.

It has been my experience that in the educational institution there seems to be a lack of a clear understanding as to the exact meaning of centralized purchasing. It should not be interpreted as signifying that the purchasing agent is completely independent of the various departments and that he purchases only as he desires. On the contrary, the department head originates the purchase by means of a requisition, which usually has the approval of the dean. Moreover, the purchasing agent constantly seeks the advice and assistance of the faculty in connection with the buying of technical equipment, laboratory supplies, and other items of an instructional nature about which he admittedly is not as expert as the requisitioner.

This does not mean that the faculty member, department head, dean or even the president is authorized to purchase directly and to obligate the university without reference to the established purchasing procedure. At the same time, no research project or instructional program should be permitted to suffer because of lack of flexibility in the purchasing system.

If the system of centralized purchasing is practical, there will be provision

for the issuance of emergency or direct buying orders by persons other than the purchasing officer. These emergency orders should be issued under rules and regulations formulated by the business office. Abuses should not be permitted.

Economical purchasing, like the other functions of the business office, is by no means an end in itself. It is one additional means of serving the institution in its educational program by providing an expert financial service that relieves deans and faculty members from a time consuming task.

A logical adjunct of the purchasing function is the control of college storerooms, such as those for physical plant supplies, laboratory supplies, and office supplies. In even a small college, economies can be effected through quantity purchases of standard supplies used throughout the campus. The business office should be responsible for the maintenance of a perpetual inventory system in the central storerooms.

Another extension of the purchasing function is the control over the physical property of the university. The number of colleges and universities that do not have perpetual inventory



systems for fixed assets is surprisingly large, even though in many cases the same institutions have modern accounting systems in every other respect. This neglect is a manifestation of a strange tendency on the part of institutional organizations to disregard cash values after cash has been converted into tangible assets.

Inventory control through the accounting system serves several practical purposes. It fixes responsibility for the custody and use of institutional property. It localizes in the department head the responsibility for the safeguarding of property by setting up the plant ledger by departments. It en-

ables the purchasing agent more efficiently to utilize existing property and thus to avoid the purchase of duplicate equipment. Its advantages with reference to insurance coverage are obvious.

4. BUDGET

The ever expanding program of the educational institution generates endless needs. The means of financing these almost insatiable wants, however, are limited. It follows that, since the demands on available income always exceed income, some reasonable plan of coordinating demands and income is necessary. The budget is the device employed in colleges and universities to attain a reasonable alignment between needs and resources.

The university budget essentially is an academic, not a business, document. Properly, it should be looked upon as the embodiment in dollars of the educational program. It follows, then, that for the most part the budget should be created by academic officers—by deans, in conjunction with their department heads and faculties, and by the president of the university.

The rôle assumed by the business office in the budget process should consist primarily in assembling and compiling the budget requests, preparing income estimates, and, when invited, advising the deans and the president.

After the budget has been approved by the president and adopted by the governing board, it is the responsibility of the business office to control the budget so that no item may be over-expended. In this way only with respect to the budget can the board's and president's wishes be carried out, and in this way only can the university operate according to a preconceived plan. Changing the approved budget is the responsibility of the chief executive, not of the chief business officer.

5. ACCOUNTING SYSTEMS

The obligations of the educational organization are so varied, and the use of its resources is so restricted, that it is considered necessary to separate its finances into compartments known as funds. Each fund contains its own resources and obligations and is in every sense a separate accounting entity. The usual fund groups recommended for university accounting systems are the current funds, loan funds, endowment funds, plant funds, and agency funds.

The accounting system should follow the generally accepted rules and prin-

ciples of commercial accounting as far as is possible and consistent with the peculiarity of the institutional setup. The records should be of the double entry type and should be based upon a modified accrual system. The accounting system should provide for internal check on financial operations to the extent practicable, according to the size of the institution. It should maintain a distinction between the cost of operating and maintaining that part of the educational plant devoted to instruction and the cost of that part devoted to auxiliary activities.

The essential principle concerning the system of accounting is not that it should be uniform with every other university but that the information derived from the system can be reliably compared with information obtained from the records of other institutions. Such uniformity in reports can be attained through the establishment of uniform account titles and classifications. In this connection the work of the National Committee on Standard Reports for Institutions of Higher Education, under the chairmanship of Lloyd Morey, must be mentioned as the most important influence toward the establishment of uniformity in accounting classifications and institutional reports.

6. FINANCIAL REPORTS

The financial statement is a logical extension of the accounting system. If the accounting records are adequate, the preparation of the financial statement is a matter merely of regrouping and classifying the information supplied by the books of record.

The necessity and importance of periodical reporting are well recognized in the business field. Administrators of corporations as representatives of thousands of stockholders are obligated to report on the results of operations. College administrators are in the same position.

The annual published report of the college serves not only to inform the supporters of the institution as to the results of the period's operations but also to convey important facts about the institution to legislators, donors, alumni and the public at large. A well prepared financial report does much to inspire the public with confidence in the work of the educational institutions and their leaders.

The annual report should be on a fund basis and should agree with the records in every respect. This report

should contain at least a balance sheet, an expenditure statement by departments, a detailed report on realized income, a profit and loss statement for each auxiliary enterprise, statements of unexpended and invested plant funds, and other schedules of supporting data. At intervals during the year, reports should be made to the governing board and to the president upon the progress of the budget. Reports for purposes of internal administration and guidance should be made monthly.

As a necessary supplement to any system of budgetary control, financial reports on the condition of organizational and departmental budgets should be made regularly to the heads of the various budget units.

7. POST AUDIT

Like every other type of organization the accounts and records of the educational institution should be audited by



competent and independent accountants at least once a year. The four major purposes of the independent post audits are: (1) verification of the accuracy of the financial records; (2) verification of the integrity of the employees of the business office; (3) expert advice on accounting methods and business procedures, and (4) the verification of financial statements.

8. ENDOWMENT FUNDS

There should be established a suitable organization for the administration of endowment and other nonexpendable funds, including investments, accounting, expenditures of income, custody of securities, and management of endowment property.

The terms of each endowment gift should be adhered to rigidly, and the accounting system should maintain an accurate distinction between the income and principal of each fund. The business office should provide the trustees at frequent intervals with complete information regarding the status of funds and the investment portfolio.

Responsibilities relating to the various aspects of the management of endowments should be clearly outlined by resolutions of the board of trustees, including specific requirements relating to the custody and safeguarding of endowment securities and other investments. Responsibility for the program should be invested in the board of trustees, with the management and administration of the program in the hands of the chief business officer.

9. SUPERVISION OF PLANT

There should be a centralized management of the operation and maintenance of the physical plant in all phases. Preferably, the complete responsibility for the proper maintenance of plant should be vested in a superintendent, or director, of buildings and grounds. This officer should be directly responsible to the chief business officer and should supervise all phases of the operation and maintenance of the physical plant.

10. STUDENT FUNDS

The finances of student organizations, such as student annuals and student newspapers, should be supervised by the business office. The accounts of these organizations should be made a part of the regular accounting system. All money collected by them should be deposited in the business office, and disbursements should be made against these funds by college checks.

Management of student loan funds should be predicated upon principles of sound business practice and should be handled in such manner as to ensure adequate protection of the funds. Interest and loans should be accounted for as a part of the regular accounting system, and the business office should be responsible for the making and collecting of all loans. In cases in which the loan fund is administered by a loan committee, the chief business officer should be a member.

In conclusion, let it be said that a sound business and financial system in the university is not an end in itself. But if the institution of higher learning is to function efficiently so that every possible dollar can be diverted to educational purposes, there must be a modern and progressive fiscal system.

The principles enumerated here are by no means my origination. Rather, they represent the composite thinking of the leaders in the field of educational finance. They are worthy of serious consideration.

LAST MARCH OHIO STATE UNIVERSITY released its newest all-campus sound film, *"The University in Transition."*

This was not the university's first plunge into motion picture production. During World War II, a sound production, *"The University and the War,"* had been completed and widely distributed. Earlier, there had been the sound film, *"Stone and Sculptor,"* and before that, for nearly twenty-five years, the university's department of photography had been accumulating experience in the production of teaching and research films on a thousand different subjects.

"The University in Transition" and *"The University and the War,"* however, are unique because together they present phases of university history that will be looked at fifty years hence with perhaps even more interest than they generate today.

At the moment, the former is enjoying a large distribution through the university's bureau of public relations. Within an eight-month period it was requested for public showings in twelve states and in Canada. It was seen at the Second International Film Festival at Locarno, Switzerland, in conjunction with a paper by Dr. Edgar Dale of Ohio State on film production in American universities. It was shown in Mexico, Central America, and at the University of Colombia at Bogota. In addition, the film has had many showings to alumni who have welcomed a chance to see their school in its modern setting.

"The University in Transition" tells the story not only of Ohio State but also of the American college scene in general. It shows a flood of veterans who have come to school under the G.I. Bill of Rights. It shows how the university met the challenge, recruited an army of new instructors, built an entire village to house its increased population, installed emergency lunchrooms in hallways when necessary, threw up temporary buildings until permanent classrooms and dormitories could be built.

The film shows how, while accepting the handicap of material shortages, the university moved ahead, kept planning for the future. Social and cultural events were organized on a scale never before conceived in the university, shortages of books were met by hard working library staffs, housing shortages were solved on a city and county-wide scale. Told in a simple documentary style, it is the story of order com-

TOUR OF A CAMPUS HOLLYWOOD

ROBERT W. WAGNER

Director, Motion Picture Division
Department of Photography
Ohio State University



OHIO STATE films *"Footsteps to the Future,"* at the request of its school of home economics. It relates the story of a girl in the school.

ing out of the natural confusion of new conditions imposed on institutions of higher learning at the war's end.

Similar films have been made in other universities. Motion picture production units are rapidly being developed in the great universities of the Midwest, prepared with the equipment and staff to make teaching, research and public information films of professional quality. Ohio State University is one of the group of institutions that have recognized motion picture production not only as a legitimate university activity but as an invaluable and essential function of an educational plant.

The evidence for this last statement is in the very fact that at Ohio State, the university administration consistently in the past, and especially during the past few years, has made funds available to the department of photography

for the construction of a sound studio, for the acquisition of high fidelity sound recording equipment, professional type cameras, lighting equipment, and other production facilities to the amount of several thousands of dollars.

Important equipment, too, has been purchased through funds made available through the University Development Fund, the purpose of which is to help keep the university in the forefront of research and technical developments by making possible the acquisition of certain types of equipment that otherwise might not be included within the university's budget.

The evidence of the university's concern with motion picture production, too, is in its provisions for the organization of a production staff. Three staff members of the department of photography are assigned full time to film

making. Their salaries come from the same fund as the salaries of the teaching staff, and the supervisor of production holds the rank of assistant professor. In addition to his duties as writer and director of films, he is responsible for teaching an accredited course in motion picture technics, from script writing to sound recording.

Each member of the motion picture production group has had wide experience in both still and motion picture photography. In addition, one man was a combat photographer in the Signal

Corps in *Transition*," which was made for the university administration, as in the case of a film requested, for example, by the school of home economics for which a two-reel sound production, *"Footsteps to the Future,"* was recently produced and released.

Each college and department is, in effect, subsidized for motion picture production. The low cost factor enables even the smallest department to participate in film making if it so desires. Produced in this way, the average sound film runs but a few hundred dollars per

by a university. They simply wouldn't pay off.

Film production in a university is subsidized in yet another way. Within the radius of the campus are experts in every field. The film maker can draw on almost limitless resources of talent and judgment—artistic, mechanical and scientific.

When a film is being planned, the agency requesting the production appoints a technical adviser who works directly with the script writer in preparation of the scenario. The technical adviser assists throughout the production to ensure maximum authenticity and completeness of the film treatment, and to avoid unnecessary reshooting of material. Economy of both time and materials is thus effected.

If dramatic talent is required, the speech department and the university theater group contribute time and assistance. The film maker, too, has the ready advice of the music and art departments, and a wealth of student talent from which to draw. The services of university electricians are provided through the service department, and from the machine shops and electronics lab comes ready help on technical problems. All this, the university, through its very nature as a scientific, cultural and technical center, provides. All films produced, therefore, are the property of Ohio State University rather than of individual departments of colleges.

The main object of film production at Ohio State is to make teaching and research films—films of professional quality which will be primary aids to instruction and tools of science. However, the university, too, has found that the public wants to know what goes on in the laboratories and classrooms. The public has a right to know these things. A film like *"The University in Transition"* is a report to the people, a fulfillment of the right of the public to see the inside of its state university. It is a picture to give the public a true view of what a university really is.

The research film finds its special home in the university, too. Research films are tools. But they are also prophets mirroring things to come.

Finally, and most important of all, the university-produced film is the film that teaches. For the thoughtful, technically sound, artistically constructed teaching films can raise the level of instruction, capture on celluloid the method of intelligence, become a work of wisdom and a talisman of truth.



RECORDING BOOTH in Ohio State University's motion picture studio. *"The University in Transition"* is the most recent sound film released.

Corps, with a background in radio. Another has been a radio writer and has done motion picture work with the Signal Corps. The third was a writer, director and photographer of documentary films for both federal and state governments.

The university provides the services of these men without charge to departments and colleges of the university. It offers to these colleges and departments the technical equipment and the studio space to produce motion pictures.

The only expenses borne by departments requesting the production of a film are the actual cost of raw film stock, a minimum of extra labor, and the purchase of special properties necessary to the production. The same procedure is followed in the case of an all-university production such as *"The Uni-*

reel, and prints can be obtained on a nonprofit basis.

In no sense is university production competing with commercial film producers. The films the department of photography are making probably would not be produced without university subsidization because of two reasons. First, commercial film production rates are far outside the limits of the average college department's funds for activities of this kind. Second, the subjects upon which university produced films are based are not generally saleable because of their specialized nature.

Films such as *"The Action of the Bovine Stomach," "The Symptomology of Newcastle Disease in Chicken," "The Random Interchange of Organic Radicals," "Recrystallization of Tin and Formation of Martensite,"* and similar topics are not likely to be produced except

Personnel

J. N. EWART

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COLLEGE and UNIVERSITY BUSINESS



and they readily saw the need for co-operation in adjusting rates. Adjustments were made in hours of work, as well as rates, to bring the take-home pay of similar jobs to fairly equal levels. The survey showed many of the rates at the institute compared favorably with area rates, and, when wide differences occurred, adjustments were made to bring the institute into line.

RECRUITING

Colleges and universities, like all other organizations, were faced with a shortage of competent personnel in the readjustment period following the war. The California Institute of Technology being no exception, an aggressive campaign to recruit new employes was started immediately. First of all, those who were to handle the interviewing made it a point to call personally on all departments and activities to get firsthand information regarding personnel and type of operation, to enable them to do a better job of screening. Personal contacts were made with all possible sources of supply, such as the State Employment Service, private employment agencies, and other organizations in the area using similar types of employes. Various advertising mediums in both local newspapers and national trade magazines were tested.

The receptionist was trained to handle all applicants in a friendly manner in order to develop good will toward the institute, even when there were no openings for them at the time. This was important because it was hoped that over a period of time it would be possible to fill a considerable portion of the personnel requirements from the application file. Such has proved to be the case in actual practice. The application forms are filed by job classification and are referred to first on receipt of new requisitions. This fact is explained to all applicants to avoid the feeling that their applications were being "buried," as is the case in many employment organizations.

No attempt at first was made to place in use a personnel requisition form because the general attitude was that it would be just so much more paper work. As the recruiting and screening service of the department came to be accepted by most of the active departments in the institute, it was no problem to sell them on the advantages of using a written requisition for their personnel needs. A memorandum accompanying the form when it was first distributed pointed out the fact that it was for the convenience of the department needing personnel and made it easier for the original interviewer to fill its needs.

The present requisition has individual spaces for such types of information as job title, working hours, rate range, age range, sex, education and training, experience required, and description of work to be performed. This form has been most valuable because it helps the supervisor to clarify in his own mind just exactly what he wants. Properly filled out, it gives all of the details needed and speeds up the whole recruiting, interviewing and screening program.

QUALIFICATION SUMMARY

The application blank is a most important tool in recruiting and interviewing, and, as pointed out, since we planned to use our file of applications quite extensively it was to be particularly important in our activities. We decided to take a critical look at ours as to both its utility in interviewing and the impression it would create on the new applicant. It developed that considerable information requested was seldom, if ever, referred to or was referred to only after the individual was employed, whereas the space available for some pertinent types of information was entirely inadequate. The form was definitely stereotyped, and it was considered especially desirable to produce something that would get entirely away from the commercialism of the average application blank—something that would be representative of the institute.

In a study of many forms in use today we came across one that appeared to fill both our needs and desires. It had recently been developed and copyrighted by C. F. Braun and Company of Alhambra, Calif. C. F. Braun, president of that company, gave us permission to reproduce it, which we did with slight variations. It has proved to be more than satisfactory in use.

The Cal-Tech Qualification Summary (modified-Braun) asks for only that information that is desirable and essential on all applicants prior to the interview. Additional forms have been prepared to give essential information on applicants in the professional and clerical fields and on new employes for the permanent personnel files. This breakdown has been made to reduce to a minimum the paper work necessary by applicants and to make more easily available to interviewers the pertinent information on the individual.

The size of the Qualification Summary is 11 by 17 inches, one fold to 8½ by 11 inches (the size of the supplementary forms is 8½ by 11 inches). All of the information is on the inside right-hand page. The front page of the Qualification Summary contains only the name of the applicant and date. The folded form was used to add dignity and to impress applicants with the fact that all information would be treated in a confidential manner. Further to add to this effect the summary was printed on a good grade of heavy-weight paper. The new form has developed a decided affirmative reaction in most applicants, as opposed to the negative reaction so often expressed before.

STANDARDIZATION OF POLICIES

During the first few months of operation of the nonacademic personnel department many questions were raised regarding various personnel policies, especially those relating to employee benefits, wages and hours of work, pay rate adjustments, and transfers among departments. These questions indicated that there had been some variation in the interpretation of established policies and that there was a need for establishing definite policies in certain fields to avoid the handling of each individual problem as a separate case. All this indicated the desirability of formulating detailed written instructions covering personnel policies and procedures.

The possibility of issuing a complete nonacademic personnel manual was considered, but the decision was made to issue the material in the form of a series of memorandums. In this way each subject could be considered in detail, and a memorandum issued as soon as approved. Further, it was considered better to distribute the material a unit at a time so that supervisors and others who had to carry out the details of any changes in policies and/or procedures

could more readily digest the material and institute the necessary changes.

The procedure followed in developing the memorandums was to issue them in tentative form to a number of supervisors for criticism and suggestions. On the basis of the returns from the supervisors the memorandums were drawn up in final form for approval of the administration. Each memorandum included a statement of policy in reasonable detail so that it would not be subject to wide variations in interpretation. It also included the procedures to be followed in carrying out the policies as a means of developing standardization of practices.

The memorandums were numbered for easy filing, reference and revision. Memorandum No. 1, the numerical index, was introduced early in the series to indicate in general the memorandums to be included and how they would be grouped by numbers. The numbering system and the titles decided upon were as follows:

Memo No.	Sub. No.	
1.		Numerical Index
2.		Alphabetical Index
3.		Definitions
10.		Employment
	1	Recruiting and placement
	2	Probationary period
	3	Part-time employees
	4	Temporary employees
	5	Minors
11.		Wages and Hours
12.		Change of Status
	1	Pay rate adjustments
	2	Transfers
	3	Personnel changes
	4	Additional departments
13.		Grievances
14.		Terminations
15.		Employee Benefits
	1	Holidays
	2	Vacations
	3	Sick leave
	4	Leave with pay
	5	Death benefits
	6	Rest periods
	7	Retiring annuity
	8	Special insurance
	9	Medical service
	10	Blue Cross hospital and surgical
	11	Ross-Loos Medical Group
	12	Employee purchases
16.		Safety
17.		Patents
40.		Clerical Classification
41.		Shop & Service Classification
42.		Technical Classification
43.		Administrative Classification
44.		Professional Classification
45.		Research & Engineering Classification
50.		Personnel Requisition
51.		Qualification Summary (application blank)
52.		Employee Status Form
53.		Personnel Change Form
54.		Individual Vacation and Sick Leave Record

The nonacademic personnel memorandums are distributed to all supervisors. At first, distribution was confined

to division and department heads and project administrators. Most of these top supervisors requested additional copies so that now almost everyone having supervisory duties is furnished with a copy in order that questions on personnel matters can be answered at the first level of supervision. In many cases the memorandums have been either posted on bulletin boards or passed from employee to employee in order to make sure that all employees were fully acquainted with institute policies and their own rights and benefits as an employee at the institute.

As a final step in placing the new material in effect the supervisors were brought together in discussion and conference groups to go over each memorandum in detail. Thus a full understanding of the policies and procedures was made certain, and many additional suggestions and constructive criticisms were prompted.

PAY ROLL APPROVALS

Clarification of policies and procedures and the establishment of the nonacademic personnel department as the central clearing house for all nonacademic personnel matters led to considerable improvement in the speed with which pay roll approvals for new employees and pay rate adjustments for old employees could be made.

First, supervisors were encouraged to send all new employees to the personnel department to fill out all records necessary before they started to work as the procedure was to hold pay roll forms until all records were complete.

Second, the approval system on "new employee" and "pay rate adjustment" forms was streamlined, standardized and clarified. All unnecessary copies were eliminated, all copies were sent to the personnel department, and following approval there, final approvals were obtained by messenger. After that, the personnel department retained the original copy for the employee's file, forwarded the pay roll copy, and returned the department copy.

Third, all questions were cleared through the personnel department so that steps could be taken to correct the procedure and to give instructions where necessary.

Fourth, a new "employee status" form was developed to take the place of three previous forms—new employee, pay change, and termination. The new form was arranged for ease of typing and legibility of pertinent information. Complete instructions were issued with

the new form so that all departments, including the many small ones that use the form only occasionally, would know exactly how to fill in the necessary items of information. Now the forms are nearly 100 per cent correct when they are received by the personnel department, which is an important item in the speeding up of this phase of the paper work necessary in personnel management and control.

CAMPUS TOURS

A study of the problem of indoctrinating new employees brought out the fact that many of the older employees had a definite desire to learn more about the many activities of the institute. Therefore, a series of campus tours was arranged to enable all employees to learn something of what was being done in other departments. These tours have helped to take the place of the personal contacts that were possible in the much smaller organization before the war. A recent group represented twelve departments, which is an indication of the widespread interest in the tours.

BENEFITS

In looking back over the first year of operation, it is rather difficult to say exactly what benefits have resulted from the operations of the nonacademic personnel department because the most important benefits are intangible. However, the following might be listed as tangible benefits:

1. The selection of personnel has improved through the aggressive and sound recruiting and interviewing program and the fact that adjusted rates naturally have made available a higher caliber of applicant, on the whole.

2. Certain savings and efficiencies have resulted from the centralization of nonacademic personnel functions and records and the streamlining of paper work in connection with personnel activities.

3. Supervision has improved through a better knowledge of personnel policies and wage rates within the institute and in the area.

4. Savings to the institute have resulted in those instances in which area wage studies indicated lower rates than might otherwise have been given.

5. Clear-cut, well defined personnel policies have become a basis for further improved operations through such mediums as employee's handbook, management club, and credit union, which are among the plans for next year.



WE FOUND BETTER WAYS OF SAYING "KEEP OFF THE GRASS"

J. J. WENNER

Assistant Superintendent, Buildings and Grounds Department
University of Cincinnati

THE CAMPUS OF THE UNIVERSITY OF Cincinnati, like many others throughout the country, suffered neglect during the war and the postwar years because of greatly increased student load and labor shortages. The result has been unsightly footpaths, barren corners on intersecting walks, and broken shrubbery.

Realizing that corrective measures were necessary before the situation got too far out of hand, last fall the buildings and grounds department of the university, under the direction of Supt. W. B. Schoelwer, spent considerable money resodding, planting new shrubbery and trees, and putting in new walks where traffic conditions indicated their need.

The preservation of these improvements becomes largely a matter of student cooperation. In order to acquire this needed cooperation, a publicity campaign was started to solicit student aid. This was in four parts, namely:

1. A letter explaining the problem and soliciting his aid in whatever manner he saw fit was sent to the chairman of each student organization.

2. A slogan contest was sponsored by the Cincinnati *News Record*, weekly campus newspaper, to choose slogans with a "keep off the grass" theme.

3. The winning slogans, stenciled on 10 by 18 inch boards, were placed around the campus where careless foot traffic indicated their need.

4. An exhibit, showing the winning slogans and the results of careless foot traffic, was set up for all to see in the student union building.

The slogan contest, editorials and feature articles were handled entirely by the student staff of the *News Record*. Prize money, \$15 for first prize, \$10 for second, \$5 for third, and \$1 for each of the next seven slogans chosen, was furnished by the buildings and grounds department. A list of the winning slogans follows:

1. Detour, —→ seeds at work!
2. Stop! I am not lawn for this world.
3. Don't be a schmo, let it grow.
4. Let's have the "new look," the lawner the better.
5. Don't tread on me or my name will be mud.

6. Give the gay young blades a chance.

7. Don't get nosey with that toesy.

8. Spare the blades and keep the campus sharp!

9. Let's give the young blades a chance.

10. Set an example, do not trample.

Stencils were cut for the first six winning slogans and then painted on 10 by 18 inch staked wood signs for use around the campus. Our experience has been that these humorous slogans are much more effective and respected than the usual "keep off the grass" and "please" signs.

The exhibit was designed by the grounds division in collaboration with a student of applied arts. It measures approximately 10 by 10 feet, has natural yews and boxwoods for background, imitation grass mats for sodding, and crushed gravel walks. Crepe paper and cardboard make up the balance of the display.

While it is still too early to evaluate the full merit of the entire campaign, the comments and the interest aroused thus far indicate real success.

Trends IN ENROLLMENT • SALARIES • FEES

THIS REPORT REPRESENTS THE fourth annual survey and study of student enrollment, tuition-fee trends, nonresident fees, and faculty salary scales. This survey includes information regarding student and faculty housing. In 1945 we received information from 141 colleges and universities. The following year 143 business officers responded. In 1947 we felt pleased when 162 questionnaires were returned. The present nationwide interest in these statistics is evidenced by the fact that this year our survey includes 288 institutions of higher education having a total enrollment of 1,011,564 students. This is nearly half of all college students enrolled in the United States (2,354,000 total).

ENROLLMENT TRENDS

The survey shows that the 1947-48 average countrywide enrollment was 80.1 per cent above the 1940-41 pre-war enrollment. It shows that during the past year there were 13.8 per cent more students in our colleges and universities than there were the previous year, but chief business officers in the colleges are not too optimistic about this fall's enrollment.

Of 288 institutions reporting, only ninety-two (31.9 per cent) were willing to commit themselves as expecting an increase in enrollment this fall. Of the 138 business officers who submitted actual percentage estimates of increases or decreases, the computed average was a 3.5 per cent increase above 1947-48. Only fifty-five (19 per cent) expect 1949-50 enrollments to be higher than those of 1948-49. Last year's report indicated an estimated average for 1947-48 of 80 per cent above the 1940-41 level. Actual enrollments were 80.1 per cent above the 1940-41 level.

VETERAN STUDENTS

Veterans in the year just closed comprised 47.1 per cent of the entire student enrollment. In the colleges

represented veterans increased 1.1 per cent over 1946-47, but it is estimated that they will decrease in numbers by 10.4 per cent in the school year starting September 1.

TUITION FEES

Two hundred twenty-five colleges and universities have increased their tuition rates since 1940-41; sixty-four institutions made such increases during the twelve months preceding our survey; ninety-one anticipated higher tuition fees in 1948-49. Computing the average increase, we find that tuition fees were 53.4 per cent higher in 1947-48 than in 1936-37; 43.5 per cent higher than in 1940-41; 29.7 per cent higher than the preceding year. It is anticipated that tuition fees in all schools will average 16.9 per cent higher this fall than they did in 1947-48.

NONRESIDENT FEES

Nonresident tuition fees average \$160 per year (two semesters or three quarters). Of the 102 tax supported schools reporting on this subject, ninety-five indicated that they are making an additional charge to students who live outside the area that is furnishing the financial support for those institutions. Fifty-nine institutions have raised their nonresident fee since 1936-37; fifty-eight, since 1940-41; fifteen, during the twelve months preceding the survey, and eleven have been forced to increase their nonresident charges beginning in September. Nonresident fees increased by an average of 170.66 per cent since 1936-37. The eleven schools that are increasing such fees this fall will probably average about 43.6 per cent above the fee being charged in 1947-48.

SALARY TRENDS

College and university salaries for faculty and administrative staffs have been increased an average of 36.7 per cent since 1940-41. It is anticipated

that salaries have been increased an additional 8.3 per cent for 1948-49. Office and clerical staffs in these colleges have had salary increases averaging 39.2 per cent since 1940-41. The business officers estimated a 7.7 per cent increase for the coming year.

Custodial and maintenance employees have had increases which average, nationwide, 47.5 per cent above the 1940-41 level. An additional rise of 7.4 per cent is estimated for September 1.

With respect to salary increases for the staff, we should bear in mind that, prior to 1940, faculty and employees were not required to pay federal income taxes. Today this takes a sizable sum out of nearly every pay roll check issued. Too, today's cost-of-living index shows an increase of 56.4 per cent above that of 1940.

These two facts, plus the general decrease in purchasing power of every dollar, cause the increase in college salaries to appear conservative, especially since the *Monthly Labor Review* of February 1948 indicates that average weekly earnings in both manufacturing and nonmanufacturing industries increased by nearly 115 per cent from 1939 to December 1947.

SALARY SCALES

College and university instructors receive, for their nine months' service in the regular school term, an average annual salary of \$2723. The range, however, extends from a low of \$1300 to a high of \$5300.

Assistant professors average \$3344 for nine months, in a range of \$1500 to \$5400; associate professors average \$3866, in a range of \$1650 to \$6650; full professors average \$4560, in a range of \$1800 to \$9367.

The salaries of deans vary a great deal, depending upon the size of the school and many other influencing factors. Of 233 institutions, the average salary for deans is \$5878.

Registrars receive an average salary of \$4165 a year for twelve months'

ROOM AND BOARD CHARGES

CHARLES W. HOFF

Finance Secretary, University of Omaha

services. Their salaries range from \$1740 to \$9000. Librarians average \$3840, in a range of \$1728 to \$8500. Building and grounds superintendents average \$315 per month, in a range of \$125 to \$725; stationary engineers, \$251.35 per month, in a range of \$116 to \$463; secretaries, \$168 per month, in a range of \$90 to \$310.

HOUSING, ROOM AND BOARD

The survey shows that ninety-seven out of 280 institutions of higher learning maintain trailer camp facilities for students and faculty. One hundred eighty-four maintain various types of temporary housing units. The housing of faculty members has become a critical problem. One hundred eighty-seven of the 280 reporting on this subject have made some provision through the schools for maintaining faculty housing facilities. Two hundred sixty-three colleges of the 280 reporting operate some type of permanent student dormitories.

The average dormitory room rate being charged students for single occupancy is \$28.33 per month. When two students occupy a room, the average monthly charge is \$15.68 each. If three or more occupy the same room, the average is \$15.15 per month. The average rate being charged for board alone (three meals a day) is \$9.27 per week.

RANDOM COMMENTS

It was pointed out in our 1945 study¹ that "fees charged students have traditionally been expected to apply only to the current expenses of the institution or to some part of its activities." With the rapid increase in living costs (making higher faculty salaries essential) and in general maintenance expenses, and because of the decreased earnings of endowment funds, the increases in student tuition fees and in nonresident fees are clear-

ly understandable. Tax income for the public-supported institutions is stable through depression and inflation, but it is comparatively inflexible. During any inflationary period the purchasing power of the tax dollar constantly decreases. Therefore, with the increased student-unit cost of operation, the only source from which schools can obtain additional operating funds is the student body itself.

In the same study it was pointed out that the "movement in levels of tuition fees tends to lag somewhat behind the movement in wholesale prices. Falling prices are not followed by reduction of fees in the colleges, but price increases are typically followed, after some delay, by increases in tuition fees. The chief adjustment of tuition fees to the changes in wholesale price levels seems to be that of increasing tuition fees somewhat more rapidly in times of increasing price levels than in times of decreasing price levels. Tuition fees seem to be adjusted much more exactly to an index of wages than to an index of price levels. . . ."

Continuing to quote from the 1945 report, "The relationship between changes in tuition fees and trends in collegiate enrollment is also interesting. In general, the trends in fees and in enrollments have paralleled each other. That is, during the period when fees were being gradually increased, enrollments were increasing at approximately an equal rate. During the period of very rapid increase of student fees following World War I, enrollments of students likewise increased in an amazing manner. During the economic depression of the 1930's both tuition fees and enrollments increased more slowly than previously."²

Now, in early 1948 as compared with 1940-41, we find enrollments have increased 80.1 per cent; tuition fees, 43.5 per cent; faculty salaries,

36.7 per cent, and custodial and maintenance wages, 47.5 per cent. During the same period the cost-of-living index has increased from 100.7 to 157.1, while the wholesale price index has gone from 78.6 to 147.8. The purchasing power of the dollar climbed from 100 in 1923 to 117.2 in 1940 and then fell to 79.1 by December 1947.

What warning should we, as business officers, take from the information contained in this report?

It seems evident that our rapid growth of the last three years is not to continue at the momentum to which we are accustomed. It is very possible that we are now on the plateau prophesied by some for 1950.

Therefore, it behooves us to be thinking, with our presidents, our boards of regents, and our deans, about increased quality of education rather than increased quantity of students.

But concentration on the problem of quality will not eliminate financial problems. Better faculty will mean higher salaries. Smaller classes mean a higher operating cost per student. Effective research is always expensive. Modern equipment to help the faculty do better teaching and research costs much more today than before the war.

Hundreds of schools have committed themselves for several years ahead to the amortization of building and equipment bonds; others have given tenure to large staffs of faculty. It is true that there have been many "expert" guesses on future enrollments. Prophets in the field of higher education can become overenthusiastic, however! It falls on the individual business officer to study the problems of his own school in relation to the experiences of business officers in other schools and to give his president and his board conscientious counsel and advice, even though it may be counter to estimates of the academicians.

We should welcome the so-called "plateau." No one really knows what will follow 1948-49. But whether this enrollment decrease comes to many of us in 1948-49 or in 1949-50, one thing is certain: It is no time to become panicky. We should welcome it as a time to settle down and spend more hours studying projected operating programs and budgets so that we can really be ready for either the bursting bubble or the spiraling enrollments of the 50's.

From a report presented before the Central Association of College and University Business Officers, 1948.

¹Proceedings of the Central Association of University and College Business Officers, February 1945.

²Russell, John Dale: *The Finance of Higher Education*. University of Chicago Bookstore, 1944, p. 181.

How About Investment Company Shares

LUCILE TOMLINSON

Formerly Associate Editor of Barron's

INCREASINGLY IN RECENT YEARS educational institutions have bought shares of investment companies (sometimes referred to as "investment trusts") for their endowment portfolios. One of the largest investment companies, for example, reports that 110 schools and colleges own nearly \$2,000,000 worth of its outstanding stock. Among these are 11 colleges, each with an endowment fund in excess of \$2,000,000. Another investment company reports 28 educational institutions among 1374 fiduciary holders of its shares.

It seems probable, however, that many more institutions that might well consider this medium for investment are deterred by lack of familiarity with the field of modern investment companies or have doubts as to the propriety of using their shares. The purpose of this article is to explain the nature and possible uses of investment company shares and to examine their advantages and disadvantages from an institutional viewpoint.

SUBSTITUTES, NOT ADDITIONS

Through the purchase of investment company shares, an investor, whether an individual or an institution, gains two important advantages: it is an automatic way of obtaining diversification of risk, and it ensures continuous day to day supervision of investment holdings. For these reasons, investment company shares logically should be considered as possible complete or partial substitutes for existing security holdings, rather than securities that might be added to the list of those already held.

In effect, the investment company takes over the problems of selection of individual securities, of replacements when other securities considered better become available or issues mature or are called, of collecting dividends and interest and exercising rights, and, in many cases, of market timing. The possible advantages to an institution

in using investment company shares in place of direct security holdings consist both of convenience and of potentially improved investment results.

There is a diversity of investment companies in existence today following very different investment policies and, accordingly, suited to a variety of investor aims and requirements. At one extreme are companies that do a complete investment job, determining the proportions of an entire fund which should be held at any given time in bonds, preferred stocks, and common stocks. Some of these are more conservative than others. At the opposite extreme are certain companies that limit holdings to a particular type of bond or stock or to the securities of a single industry. The majority of companies fall between these extremes but concentrate in varying degree upon safety, maximum income, or capital appreciation as the primary objective.

This variation in policy makes it possible to select companies that are seeking the same type of investment result as an institutional finance committee itself would seek. It is correct to say that any institution can match, through one or more investment companies, the investment policy it wishes to pursue.

MATCHING NEEDS AND POLICIES

An institution might, for example, feel that its need for assistance is limited to the common stock portion of its portfolio. For the purpose, it might choose companies that normally follow a policy of full investment in selected income producing common stocks. Another might prefer that the investment company management determine what proportion of a fund should be invested in issues of the equity type under various circumstances and choose companies managed on that basis. Or the institution may wish to be guided by an investing formula of its own choosing in determining stock and bond

proportions; there are investment companies especially suitable for that purpose.

This existence of so many different kinds of investment companies largely overcomes the disadvantage that the investment company management cannot be guided in its policies by the particular requirements of any individual shareholder. At the same time, considerable discrimination and care are obviously required in the selection of specific investment companies to obtain an ideal matching of objectives and policies.

It is not necessarily easier to select investment company shares than to make direct investments, but once the choice is made—assuming that it is a good one—there is little further to do. An occasional checkup is, of course, desirable. But it can be limited to overall results, since basic policies are not changed without adequate notification to shareholders.

OPEN-END COMPANIES

A distinction of a different type also exists among investment companies. That is the open-end *vs.* the closed-end method of operation. Open-end companies (frequently called "mutual funds") issue redeemable shares—the investor can always liquidate shares promptly for whatever the underlying securities are worth at the time. Likewise, shares are purchased at the underlying worth, plus an "entrance fee" or "load" which covers the costs of distribution. Closed-end company securities, on the other hand, are listed on a securities exchange or traded over the counter. They sell sometimes for less than the underlying value and occasionally for more; there is no fixed relationship between price and value of assets.

This article in general refers to the open-end type of investment company. Space does not permit a detailed discussion of both types and, as a practical

As Endowment Holdings?

matter, there are few closed-end companies whose capital setups make their common shares suitable institutional holdings.

Quality of management is, or should be, the most important single consideration in the whole question of whether or not to use investment company shares. To be blunt, it is not uniformly good throughout the business. But it is a fact that some of the best brains and most extensive research organizations in the entire financial field are now connected with investment companies.

Some investment companies are sponsored and managed by leading investment counsel firms. In these cases, the investment companies receive service comparable to that given a large individual client, plus the convenience of having the company take care of the mechanical details and ensure that recommended action is taken promptly. It is significant that investment counselors who have sponsored investment companies over a period of years frequently conclude that many individual clients would be in a better position if they transferred their funds to the investment company.

Other investment companies do not have outside affiliations. Some maintain large research organizations solely for the benefit of their shareholders; others depend in part upon outside statistical and research organizations.

RECORDS CAN'T BE KEPT SECRET

Competition has steadily raised the standard of professional investment management, particularly in the investment company field. For here past results are easily computed by anyone who is interested and are widely publicized. As compared with other financial services, this is a virtually unique feature of investment companies. A record of consistently poor achievement cannot be kept secret; outstandingly good performance can be recognized.

For any specific educational institution, the question of whether or not investment company shares should be used would appear to depend partly on the size of the endowment and partly on its existing method of managing security holdings. In general, one can say that a large institution is less likely than a small one to have such a need, but the dividing line between large and small is difficult to define.

Diversification alone is not likely to be an important investment company advantage for any but the smallest endowment funds. In passing, however, it might be noted that many of the larger institutions have small funds which must be kept separate from the general endowment—for special purposes, alumni funds, and the like—for which the diversification provided by investment companies might be ideally suited.

WHAT ABOUT COST?

From there on, a number of pertinent questions may be asked. How active is the finance committee? Is there a full-time investment officer? What other types of assistance are available, and at what cost? And last, but not least, how successful has the existing method of supervision been in the past? Depending on these factors it is at least possible for a small institution to have less need for the services investment companies can provide than has a considerably larger one.

Not to be ignored is the factor of cost. Investment supervision must be paid for whether it is supplied by a regularly employed individual, by an outside advisory organization, or through investment companies. In the last case the management charges are deducted from the gross income of the company before the remainder is distributed in the form of dividends. Costs vary among companies, ranging from about 0.3 per cent to around 1

per cent of total assets per year. Depending on the companies selected, the size of the fund, and how supervision would otherwise be obtained, the cost of using investment companies may be higher or lower than alternative methods.

There is an additional cost involved at the time of purchase of most open-end investment company shares, usually referred to as the "load." This is usually the only charge involved for a purchase and subsequent liquidation of open-end securities. Depending on the company and the amount of money invested, it may range between about 2 and 8.5 per cent.

FAIRLY NEW DEVELOPMENT

Costs are always relative, and investment company shares are no exception. If an institution has no need for the various services that investment companies provide, their use certainly could be considered expensive. If, on the other hand, past experience indicates that such a need does exist and that improved investment results are likely to result from their use, then cost is a minor factor. Investment mistakes can quickly prove many times more expensive.

Investment companies in their present form are a relatively new development in the United States. Many of those which might best qualify for institutional holdings were unknown or did not exist as recently as fifteen years ago. Their acceptance by conservative investors has been retarded by the errors of earlier sponsors who, through the setting up of unwise capital structures, inexperience at scientific investment management, or even outright dishonesty, brought the business into considerable disrepute for a time. Widespread acceptance among individual investors of the investment company medium dates largely from 1940, when the Federal Investment Company Act was passed.

Against this background, the very fact that even a limited number of institutions has chosen to use investment company shares for endowment investment suggests that many more will find similar action attractive in the years ahead.

Converting: GARAGE INTO COLLEGE

LOULA N. CANTRELL

Secretary to the Registrar
University of Georgia
Atlanta Division

THE ATLANTA DIVISION OF THE University of Georgia has expanded its facilities in two years from a \$60,000 building purchased by the state in 1938, which served only 1700 students a quarter at peak capacity, to a four-acre downtown property consisting of a gymnasium-auditorium and a six-story former office and garage building.

Two blocks east of the city's financial center, with the greater part of its student personnel in nearby office buildings, these increased facilities provided for the educational needs of a cumulative enrollment of 6880 in the school year 1946-47. Adjacent

land, acquired April 1, 1948, assures future expansion of this unit of the University System of Georgia. Situated diagonally across from the city auditorium, the new site overlooks jewel-like Joel Hurt Memorial Park.

Presently appraised at between \$2,500,000 and \$3,000,000, this expansion is the result of the vision and business acumen of the director, Dr. George M. Sparks. When it was evident the Allies' offensive in Europe would culminate in victory, Dr. Sparks asked the Veterans Administration for

an estimate of veterans we might anticipate as students whose family responsibilities would necessitate supplementing the G.I. allowance. The estimate was 5000. Since the enrollment then was around 12,000, few of which were men students, and since a peak enrollment of 1653 in the fall quarter of 1940 had taxed the 40,000 square feet of school plant, an immediate increase of facilities was mandatory.

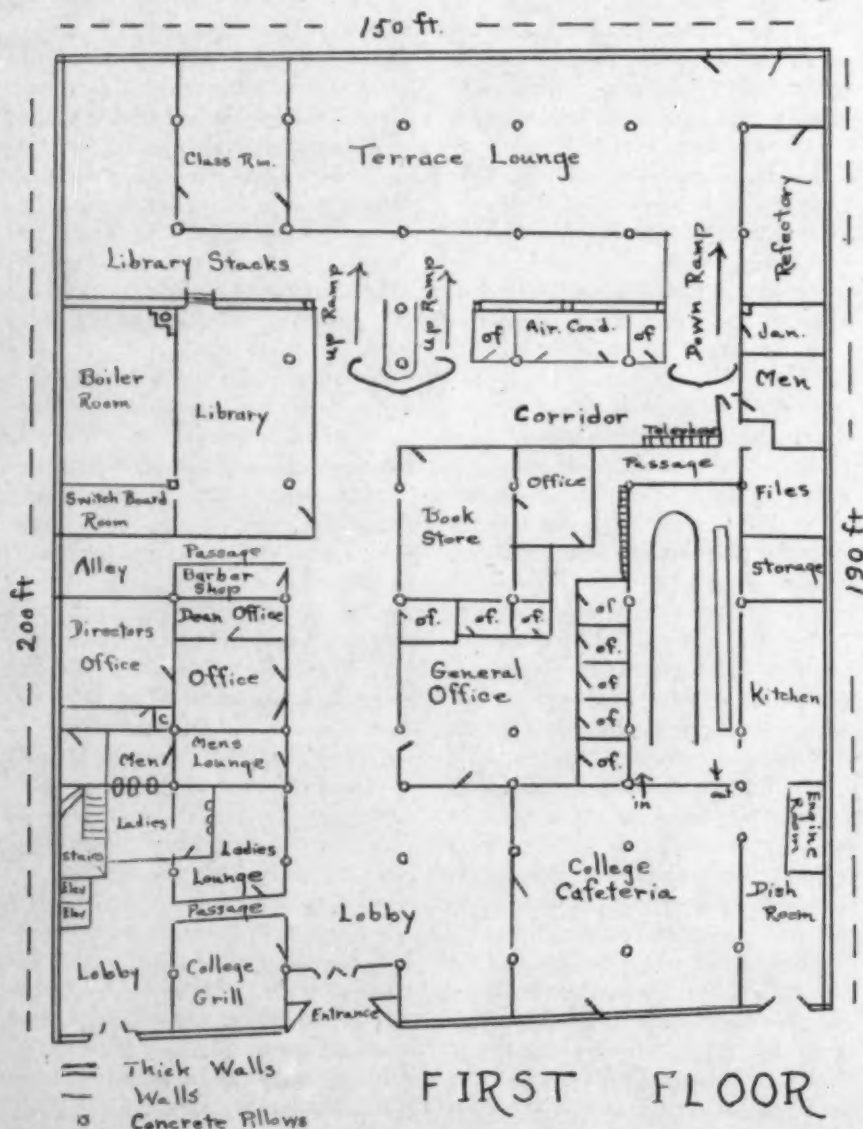
The initial problems were to find another downtown location and to finance the project as the college is self-supporting from tuition fees, except for a small allowance per student from the state.

After weeks of search there was found a six-story combination office and garage building with 187,700 square feet of floor space. It was of brick and reinforced concrete construction, with sprinkler system and double patented ramps connecting the twelve levels used for car storage. The owners, operating at a loss, would sell for \$301,000.

The director went to the state auditor and asked if there were any idle trust funds on which the college could pay more interest. The state auditor found \$600,000 in unrestricted trust funds, belonging to two other units of the system, which needed reinvestment. Dr. Sparks offered 4 per cent for their use instead of the 1½ per cent they had been drawing. The next step was to get the approval of the regents.

In March 1945 the governor's legislative committee made a survey to determine postwar needs of the sixteen colleges in the system and paid a visit to this unit. Its findings, published in the Atlanta newspapers, created sympathy for the need throughout the state.

The regents considered the director's presentation of need, found the basis for the loan of the unrestricted trust funds sound and passed a resolution granting their use, allowing



JEAN HURT MAURY

Manager, Public Relations Office
Chicago Undergraduate Division
University of Illinois

WHEN A STUDENT AT THE UNIVERSITY of Illinois' new Chicago branch says that his "campus" is Lake Michigan, he means just that. He is one of 4250 students attending classes at Navy Pier. There's a story behind the establishment of the school on this unique campus.

In common with every other college and university throughout the country, the University of Illinois in the summer of 1946 faced the problem of accommodating the thousands of veteran and nonveteran students clamoring to go to college. To meet this demand, university officials set about expanding facilities on the main campus at Urbana, urged an expansion of the state's junior colleges, and sponsored extension courses for freshmen in thirty-one Illinois high schools. As the fourth point



Converting: NAVY PIER INTO COLLEGE

in the program, university officials reasoned that nearly half of the prospective students in the state of Illinois lived in the Chicago area. They decided to bring the university to the doorsteps of these students.

Shopping for space to accommodate a Chicago branch of the University of Illinois was no small problem. Few centrally located sites were available. Those that could be leased were unsuitable for classroom purposes or rentals were so high that use as a college was not practical.

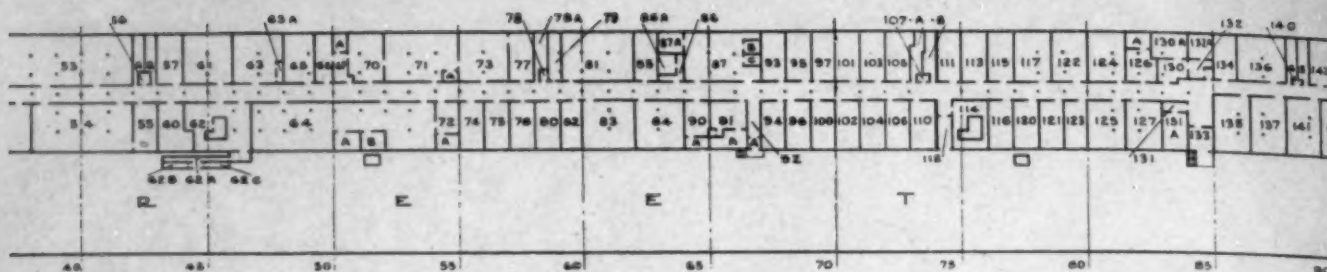
The site finally selected was Navy Pier, a familiar Chicago landmark with a colorful history as a shipping pier, convention hall, and amusement center. In 1942 it was taken over by the navy for training Diesel, aviation, special device,

and electronics technicians. But with the end of the training program, it was to be turned back to the city of Chicago. Located in the downtown area, the mile long structure could be leased from city authorities at rentals one-eighth those of Loop buildings.

While negotiations were still underway with city officials for a four-year lease with a three-year option, and three months before the navy officially decommissioned its base, work started to transform the pier into a college campus. The man selected to direct this task was Capt. Charles C. Caveny, still in the uniform of the U.S. Naval Reserves and on terminal leave from his war-time assignment as executive and educational officer for the training schools at the pier. He faced a task.

It was August 1946 before actual construction work started. If the school was to be established in time for the fall semester, it meant round-the-clock work schedules for construction crews. And it was round-the-clock schedules that they worked. Twenty-six classrooms and lecture halls were constructed in a former navy mess hall. Wooden block floors—120,000 square feet of them—were replaced with concrete flooring. A corridor was built to connect the classroom area with the cafeteria and lounges at the end of the pier. Partitions were removed to provide space for laboratories and shops, storage areas were divided into additional classrooms, and offices constructed.

But speeding construction work was not the only problem facing the staff of



KEY TO PLANS OF FIRST AND SECOND FLOORS

FIRST FLOOR

Classrooms: 75, 76, 80, 82, 83, 84, 93, 94, 95, 96, 97, 101, 102, 103, 104, 105, 106, 110, 111, 113, 115, 116, 120, 121, 123, 124.

Laboratories and Shops: General chemistry, 53; quantitative, 54; balance room, 55; chemical storage, 60. Concrete testing, 61. Machine shop, 64. tool crib, 64-A; inspection room, 64-B; demonstration room, 65. Welding, 70; foundry, 71. Sand testing, 77. Physics, 117, 112, 124, 125; physics offices, 125, 126. Wood shop, 142.

G.E.D. Rooms and Offices: 127, 135, 136, 137, 143, 146, 147, 147-B, 150.

Bookstore: 87; vault, 87-B&C; bookstore storage, 85.

Physical Plant: 152, 153, 154, 155, 156, 157, 158, 181.

Cafeteria and Kitchens: Cafeteria lounge, 182; cafeteria, 185; kitchen, 183; store-room, 183-A; faculty cafeteria, 183-B; faculty dining room, 183-C; food service office, 183-E; food service manager, 183-F; bake shop, 183-G; dishroom, 185-A; dishwashing room, 185-B; soda fountain storage, 185-C.

Auditorium: 187; properties room, 187-A&C; storage, 186-H&J.

SECOND FLOOR

Classrooms: 201, 202, 203, 205, 206, 208, 209, 211, 212, 214, 215, 216, 217, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229.

Lecture Rooms: 204, 210, 213, 218, 230.

Lounge: 235.

Library Facilities: 238, 239, 239-A, 239-D, 240.

Architectural Rooms: Drafting, 241, 242; lecture, 251.

Furnace and Heater Rooms: 252, 239-B&C.

Preparation Room: 207.

The first quarter mile of the first floor plan is not shown because of space limitations of the magazine page. It contains the reception and information rooms, offices of bursar, registrar and associate deans, and a number of laboratories. The third floor or tower area at either end of the pier houses the offices of the business manager and his staff, the executive dean, dean of students and Veterans Administration officer.

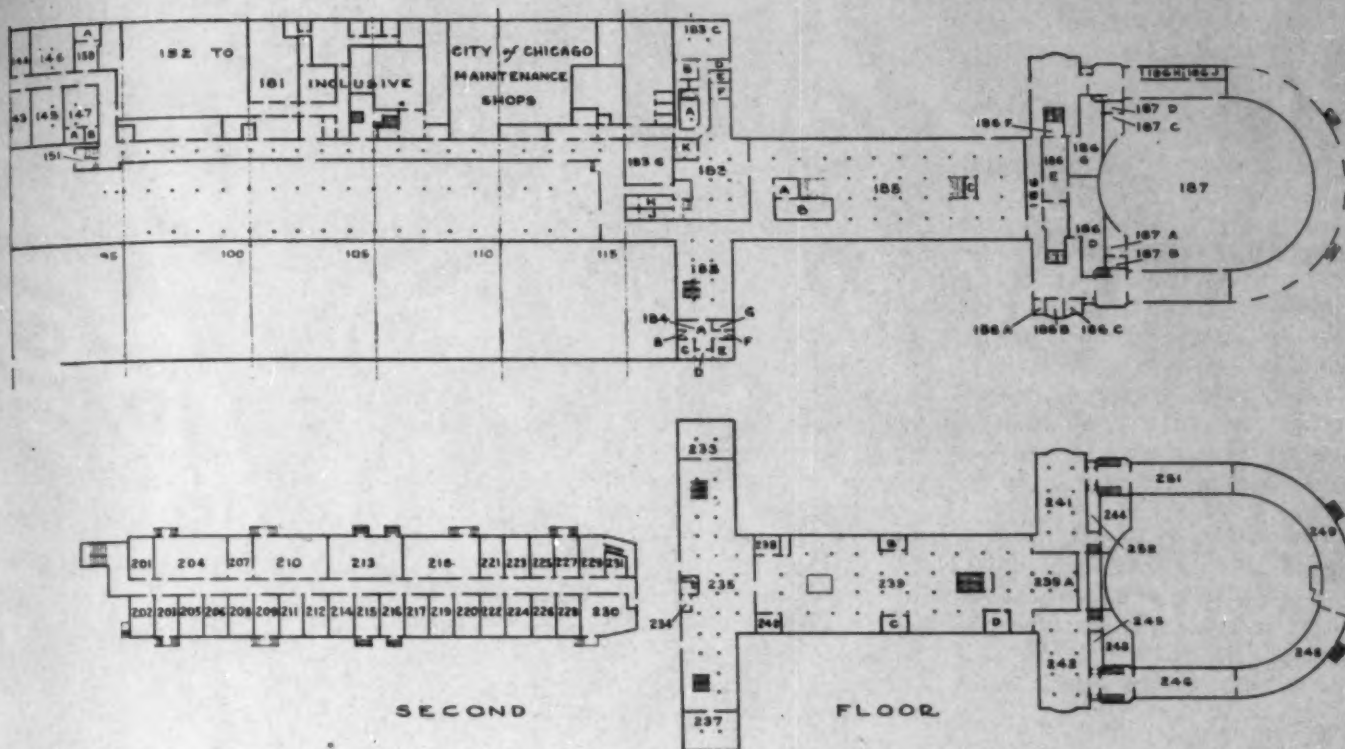
the new branch late in the summer of 1946. One of the first men to join the staff was William R. Williams, with the University of Illinois business office since 1938, with time out for war service. He was charged with the responsibility of obtaining the thousand and one items of equipment needed to start a school. Mr. Williams turned to the stocks of surplus equipment left by the navy to purchase cafeteria equipment, office furniture, classroom chairs, and lighting fixtures. Navy items converted for university use totaled \$100,000. Orders had to be placed for additional equipment costing thousands.

While the physical plant and business office were wrestling with problems of construction and equipment, Dean Caveny and his assistants were scouring the country for 250 qualified professors and instructors, the personnel office was searching for clerical and maintenance help (oddly enough, it proved easier to find professional staff members than typists), and the registrar's office was swamped with hundreds of prospective students.

At the end of registration week—less than three months after the first construction began—3846 students were enrolled. Although the major remodeling work was finished so that classes could start on schedule, much remained to be done. During the early part of the first semester, instructors competed with air hammers and buzz saws. One day a math class was thrown into total con-



Once a barren storage area with high ceilings and wood block floors, the students' lounge at the pier entrance has a modern flavor. Done in rose and green, this is one of three lounges for recreation and study.



fusion when a workman poked his head through a ventilating shaft in the ceiling and begged someone to get a ladder to help him down. Students on the way to class during those first weeks skirted ladders and carpenters' tools. One G.I. student described the main corridor as the world's longest obstacle course.

However, sixty-five classrooms, six lecture halls, and most of the thirty-five laboratories were ready for the first day of classes. In chemistry laboratories, navy mess tables were remodeled as improvised tables, pending delivery of permanent equipment.

The student cafeteria seating 1100 persons was ready for business, too. Because of the lack of eating facilities in the vicinity of Navy Pier, the university operates on a nonprofit basis two soda fountains and a faculty-staff dining room, as well as the large cafeteria. At the present time the combined facilities are serving 6000 customers daily.

As a part of the self sufficient campus, a share-the-profit plan bookstore was established for the convenience of students. Operated by the business office, the bookstore stocks a complete line of books and supplies. One of the most startling renovations was in the library. A former navy mess hall was transformed into a reading room with bookshelves accommodating 40,000 volumes and tables to seat 800 students. Today, with the addition of a permanent exhibit of modern paintings in the large,

pleasant room with windows overlooking the lake, there is no trace of the former navy "occupation."

Similar transformations were accomplished in the three student lounges—the reception lounge and two large study and recreation areas at the "lake end" of the pier. As the finishing touch, classrooms and corridors were repainted and the navy gray gave way to light beige and brown at the end of the first semester.

The university was fortunate to obtain, along with the 375,000 square feet of floor space on the pier structure, the use of the large gymnasium adjacent to the pier. Built by the navy as a drill hall, it was ideally adaptable for the university sports program. With the largest single gymnasium floor in the state, it accommodates physical education classes for both men and women students, as well as the intramural and intercollegiate sports program. This year, with the addition of bleachers to seat 3000, the gymnasium has been the scene of intercollegiate basketball, wrestling and gymnastics meets.

No discussion of the changes the University of Illinois brought about at Navy Pier can be complete without a word about the costs involved. Establishing a college, one that will accommodate 4000 students, is an expensive proposition. University officials realized this. Nearly a million and a half dollars went into the initial construction and

remodeling program and for instructional equipment. The annual operating budget totals another \$3,000,000.

The test of how effectively this money is being spent is in the job accomplished. Has the Chicago undergraduate division met the needs of the students? One answer might be in enrollment. The number of students registered has increased steadily since classes first started for 3846 freshmen and sophomores two years ago. During last semester, 4250 students were enrolled. Another indication of the success of the school can be gathered from Navy Pier students who have gone on to other campuses. "Graduates" of the two-year program report that they have better-than-average backgrounds for advanced college work. Additional evidence was brought forth in a recent survey in which 90 per cent of the students indicated that they would continue at the pier if junior classes were added.

What is the future of the Chicago undergraduate division now that the veteran demand for beginning college work has passed its peak? Nonveteran students are taking their places. In 1946-47 four out of five of the students were ex-G.I.'s. In 1947-48 three out of five were veterans. It is too early to say what the future will be for this "emergency" college. But the record of the young college is one answer to the challenge presented to America's institutions of higher education.

GARAGE INTO COLLEGE, Cont.

from page 16

twelve years for repayment. At the same meeting they authorized the purchase of the garage building and the organization of three corporations, with Director Sparks as president of each corporation. One was to liquidate the assets of the garage, one to operate the office building, and one to take over the other two corporations.

Operation of the garage company netted \$12,000 the first month, enough to pay the difference between the amount borrowed and the purchase price of \$301,000, as well as the costs incident to the transfer of title.

ALTERATIONS AND COSTS

Then came the triple tasks of procurement of scarce materials, the finding of more lucrative tenants to replace those with expiring leases, and acceptable auxiliary enterprises to earn income with which to repay the borrowed funds.

To defray the costs of labor to make alterations, two buildings formerly occupied by the college were sold. By replacing tenants with expiring leases with state agencies, and by letting space for a snack shop and cafeteria to proprietors on a concession basis, with a percentage on the gross to the college, income was increased from \$23,000 to \$60,000 annually. The state agencies had budgets that contained funds for remodeling quarters, and this saved the college considerable costs. Income from auxiliary enterprises repaid the loan in ten months instead of twelve years!

As there were no wallboard, nails, seasoned wood or other building materials available, a representative traveled the Southeast searching for surplus materials. On Nov. 3, 1945, when the first \$10,000 worth of 2 by 4's and 4 by 8's were received, county convicts, unable to work out of doors because of rain, commenced the removal of accumulations of dirt and grease from the concrete floors. As they finished one section of the areas of concrete, the carpenters began the setting up of partitions. In May 1946, seven months after the scrubbing began, alterations on the first two floors

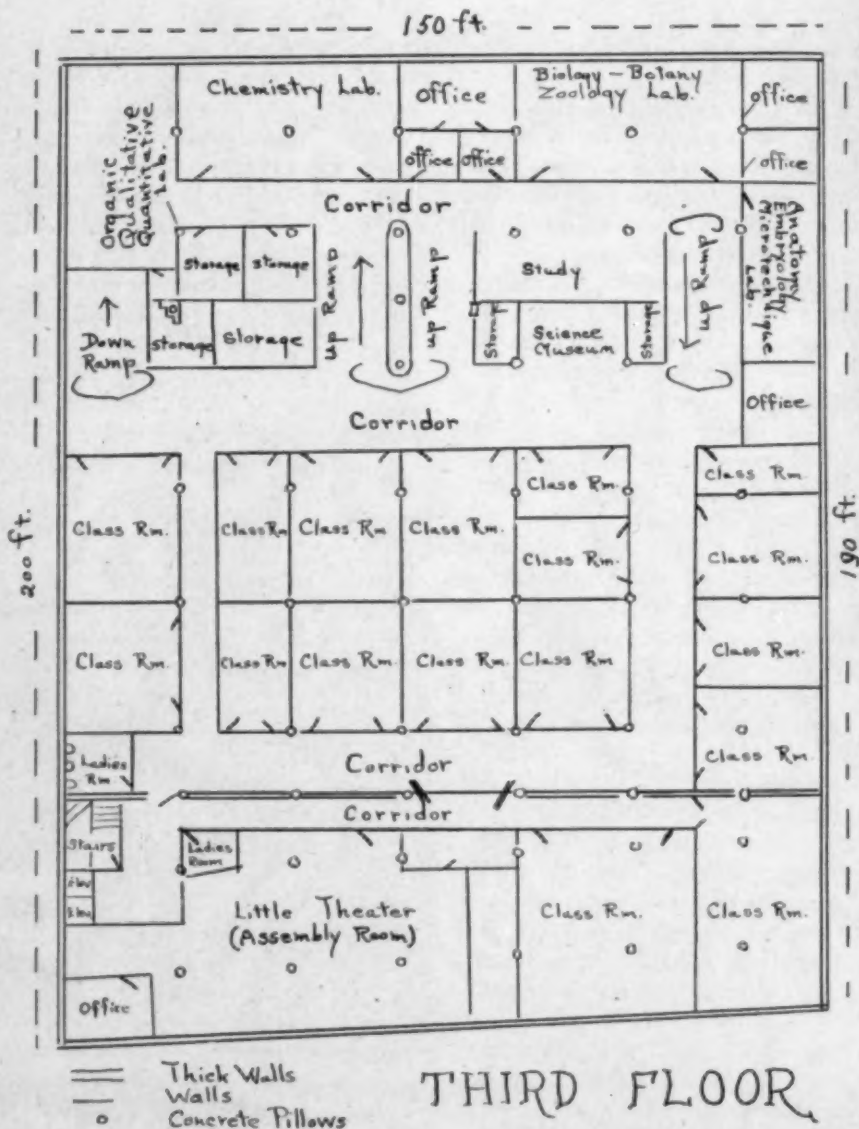
and three intermediate levels were completed. In a week end all equipment was moved from the old building except from the laboratories, which were continued there through August.

Where cars formerly rolled into the garage for storage or servicing, a spacious lobby and wide L-shaped corridor, connecting with up and down ramps, greeted the students. A library housing 30,000 books; a cafeteria serving luncheon and dinner; snack shop; executive suite for director; administrative suite for the deans, registrar, comptroller; the veterans' office; bookstore, and motor rooms for

the air conditioning system completed the street floor. Space on the intermediate level between first and second floors was utilized as a typing laboratory and four classrooms, with an office for the student newspaper and storage rooms.

As the enrollment increased, the other floors have been converted to school use, all classrooms being equipped with green glass chalkboards, fluorescent lighting, and tablet-arm chairs. The art laboratory and the accounting rooms have tables. There are now fifty-six classrooms and eight laboratories in use from 9 a.m. until 9 p.m., with three sessions a day.

A little theater, recreation room with bowling alleys and other equipment, two large assembly rooms, as well as a clinic, are within the college building. Inside classrooms are equipped with an air conditioning system. These, as well as the outside





RAMPS connecting the floor levels solve the traffic problem and aid disabled veterans. After hours, locked gates are drawn across the left and right ramp corridors reducing to a minimum policing of the building by the night watchman. His activities are then confined to the first floor, terrace level, auditorium-gymnasium and the grounds.

classrooms, are used for evening division students.

The sixth floor area is yet undeveloped because a tenant still holds the lease.

Décor throughout the college building includes cocoa dados, cream upper walls, and bone-white ceilings covered with acoustical tiles. The floors are covered with rubber tiles of brown flecked with cream and wine [colors, not liquids—Ed.]. This sameness of treatment conceals mismatched doors, there being only two alike in the building, and other differences resulting from use of surplus materials. Fluorescent lighting is used throughout except in lobby and corridors where softer lighting is used.

Cost of alterations, begun Nov. 3, 1945, and completed in April 1947, was \$155,437.20, which includes the architect-builder's fee. Use of surplus materials, procured at a fractional amount of their value through the War Assets Administration and other agencies, reduced the costs. This figure also includes the costs of materials and labor of covering the floors and the ramps, which had a special ribbed black rubber matting to prevent slipping; the cost of acoustical

tile for lobby, office, library and corridor ceilings, and the cost of installation of an air conditioning system which, in cold weather, carries heat furnished by the city.

RECREATIONAL BUILDING

The gymnasium-auditorium, given by the federal government under the Mead Bill and erected by the Bureau of Community Facilities of F.W.A., added 17,250 square feet for recreational use. Situated immediately behind the college building and connected with it by a bridge, it is used in a dual capacity. It is of fireproof construction with brick sidewalls, floored with hard maple marked into basketball and tennis courts. It contains a modern stage equipped with dimmers and spotlights, dressing rooms for men and women drama students, and office for the director; also shower and dressing rooms for men and women gymnasium students, with office for gymnasium director.

The building has six exits and is equipped with a sound system which amplifies the sound and duplicates perfect tonal qualities.

Federal expenditures amounted to \$120,778.82. This covered all dis-

mantling, transportation, re-erection, warehousing and supervisory costs chargeable to the project, as well as handling of equipment from Tullahoma, Tenn. In addition, the college expended \$50,000, which covered grading and preparation of site acquired several months after removal to the college building. The figure also includes the costs of brick for the double sidewalls, maple flooring for the 86 by 175 foot building, and the installation of utilities, an expensive item as a power line had to be run the length of the school building. It includes, in addition, the costs of modern theater lighting, dimmers, spotlights, partitioning of offices for directors of both dramatics and athletics, dressing rooms and showers for both men and women students in each department, an electric scoreboard, collapsible gymnasium seats, portable basketball goals, and curtains for windows and stage.

The building is in constant use during the twelve-hour college day. School affairs, including special dances, carnivals and homecoming banquets, are held there. Civic clubs and other community organizations reserve it when it is not being used by the college.

FUTURE DEVELOPMENT

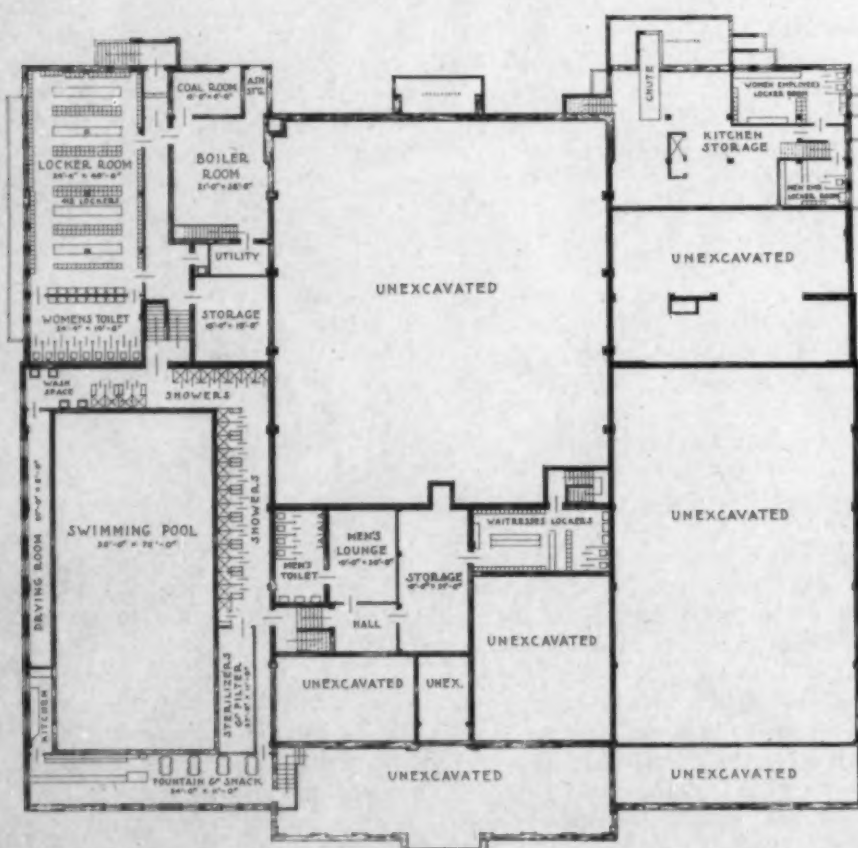
Now part of a master plan of the regents of the University System of Georgia to provide education on the college level in the fields of business administration and the liberal arts for every citizen who desires it, and who is qualified, steady growth of the Atlanta Division is assured in its integration program with the University of Georgia at Athens. This integration includes all departments, and all courses are fully accredited.

Building plans include the immediate conversion of the roof of the present college building into a "campus in the sky" where students may sunbathe, play tennis or shuffleboard, or simply relax in a cabana which is to house a refreshment stand and small dance floor.

A new site has been recently acquired; here it is planned to construct an H-shaped ten-story building with bell tower, to include a library for business research staffed with specialists, an auditorium, classrooms and a swimming pool. The present college building will then be rented as office space, with the income used to defray costs of the new building.



COLORADO WOMEN'S COLLEGE has a new building for student activities; one corner of the attractive lounge is shown above. A swimming pool and its related facilities are in the basement, plan of which appears below. The sound system has independent unit control.



DESIGN FOR

S. ARTHUR AXTENS

Architect, Denver

MASON BUILDING IS THE ACTIVITIES building for Colorado Women's College, a junior college in Denver. This building is designed to provide facilities for the 500 resident students, as well as for 200 nonresidents. The building must also accommodate parents and guests for banquets, dances and other social gatherings, as well as athletic competitions.

As will be noted by examining the plans, the building provides a well lighted gymnasium that seats 700 spectators. Of concrete rigid-frame construction, it produces a high unobstructed playing space and, by means of the cantilever balcony construction, gives the spectators an unobstructed view.

To serve the needs of students, parents and guests, a general dining room, with adjacent private dining room, is provided to serve 700 persons at one time. The principal dining room has a balcony around both sides and both ends, which is served at that level from a service kitchen supplied by dumbwaiter from the principal kitchen.

Kitchen, bakery, vegetable room, salad room, refrigerator rooms, dishwashing and dish storage, linen room, service area, and dietitian's office are arranged as shown in the plans, which, with the kitchen storage in the basement served by dumbwaiter, allows the food to proceed logically from service entrance to dining room. Kitchen employees' locker rooms are located in the basement under the kitchen.

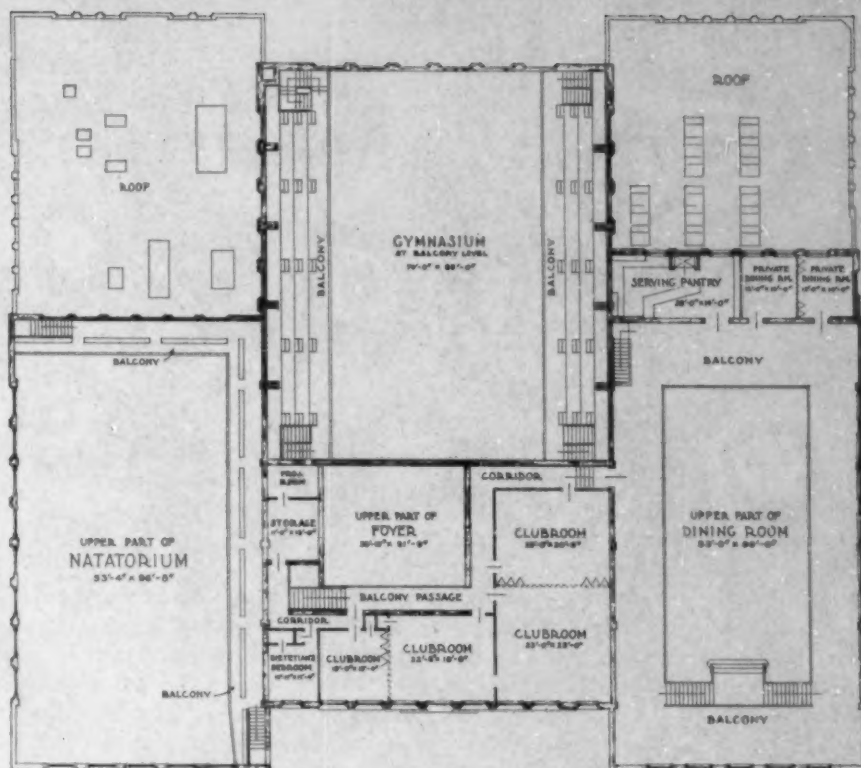
The natatorium provides a standard 75 by 35 foot five-lane pool filled with warm, chlorinated, recirculated water, varying in depth from 4½ to 9¼ feet. Four hundred spectators can be accom-

FOR JUNIOR COLLEGE

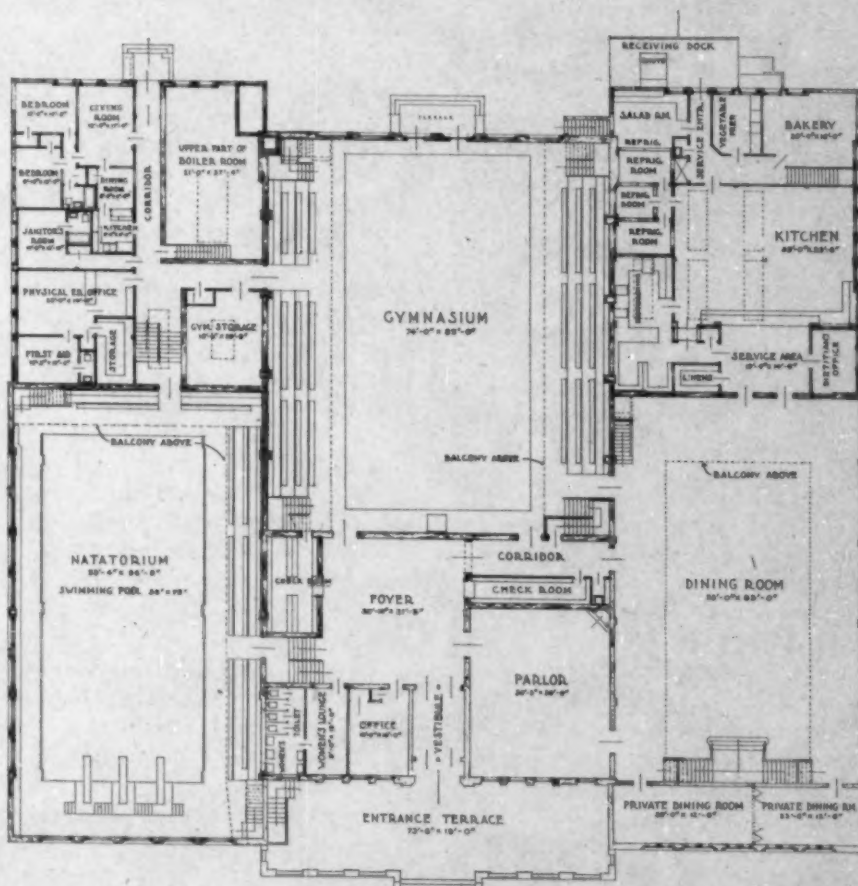
In addition to the principal units noted, there are clubrooms, offices, custodian's apartment, janitor's room, boiler room, fan rooms, waitresses' locker room, storage rooms, students' fountain room and snack bar, foyer and vestibule.

Roof construction is concrete on steel bar joist, except over gymnasium and natatorium, where reinforced gypsum plank is used. All roof areas are covered by 90 lb. prepared asphalt-felt roofing over 1/2 inch insulation board. Ceilings are fiber insulation tile in pattern, applied to plaster or gypsum plank.

This building was built by the cost plus fixed-fee method at a cost of \$475,375.58, exclusive of furnishings and kitchen equipment. It was completed in December 1947 at a cost of \$0.585 per cubic foot.



GYMNASIAUM construction is of concrete rigid-frame; a cantilevered balcony seats 700 spectators. Dining facilities can take care of the same number at one sitting; the principal dining area has balconies on the four sides. Swimming events can be witnessed by some 400.



PRODUCTION LINE METHODS FOR

Veterans' Billing

IN COOPERATION WITH OUR REGIONAL Veterans Administration office, a new type of billing form has been devised and adopted at the State University of Iowa. This new billing form was specifically designed for handling a "cost of instruction" type of contract on punched-card equipment and has been used successfully since the second semester of 1946-47.

The final billing is prepared on six-part continuous stock paper form, letterhead size. Each letterhead sized sheet constitutes a separate invoice and shows the detailed billing for at least eight student veterans. Ten per cent of books, supplies and equipment for the entire invoice is computed while the page is processing through the tabulator, the total is printed near the bottom and is added into the invoice total, also printed at the bottom. The invoice headings and certifications are printed at the top and bottom, respectively, on a hand fed platen type of press, before carbons are decollated from the six-part forms. The pressure of the press-printing on the first copy gives clear registration through the carbons for at least four copies.

The punched-card procedure flow chart presented here may be helpful in aiding the reader better to follow the somewhat technical description of the detailed procedure in the following paragraphs.

PROCEDURES USED

Punched-card procedures used in the veteran billings are in large part by-products of other routine jobs already in operation on punched cards in the university's statistical service department. The punched-card forms necessary for a completed billing are a master name card; fee card; cost of instruction card; a summary card for books, supplies and equipment; an invoice number, and invoice 10 per cent cards used to facilitate printing of invoice page totals and invoice number.

F. E. OLIVER

Assistant to Controller
and Manager
Statistical Service Department
University of Iowa

Veterans' master cards are punched from certificate of eligibility forms routed through statistical service for that purpose before they are mailed to the Veterans Administration. Each veteran's "C" number, date of enrollment, service number, name (28 columns), student number, Public Law and a five column alphabet sequence field are punched into the master card.

FEE CARDS ARE BY-PRODUCT

Fee cards for the billing are a by-product of the punched-card procedure for student fee collections and allocations. All student fee cards charged against Public Laws 16 and 346 are pulled and reproduced for purposes of veteran billing.

"Cost of instruction" cards are punched from the intramural voucher used to record student fee payment at registration time for veterans using Public Laws 16 and 346. The copy of the intramural voucher used for this purpose must first be certified by the director of veterans' service and posted with the number of credit hours for which each veteran is enrolled on Veterans Administration records.

The "cost of instruction" amounts are gang-punched to these cards from a prepunched master deck, the correct amount and rate being punched and controlled by the number of credit hours being carried in any of several colleges by the student.

Books, supplies and equipment cards are punched from cash disbursement vouchers to local bookstores in payment of authorized veteran requisitions. These vouchers are earmarked for special detailed punching while they are being punched for general accounting. A separate IBM card is punched for each requisition; after proof of punch-

ing, these cards are later summarized into a single card for each veteran's billing.

The most important "control code" used in processing veteran billings from all of these punched cards is the student number. This is a permanent number assigned to each student for registration purposes, and it is posted to the certificate of eligibility by the registrar's office before it is punched.

These various cards are collated together, the alphabet sequence is gang-punched from master to detail cards, and they are then sorted by alphabet sequence. A preliminary billing is now prepared on single copy plain continuous paper form and is sent to the business office for audit. (Books, supplies and equipment cards are summarized and replaced by the single summary card.) After being audited, we use the preliminary billing to bring the punched-card file up to date, making corrections where necessary and filing in "credit to reduce to maximum" cards for veterans exceeding the allowable limit of billable charges.

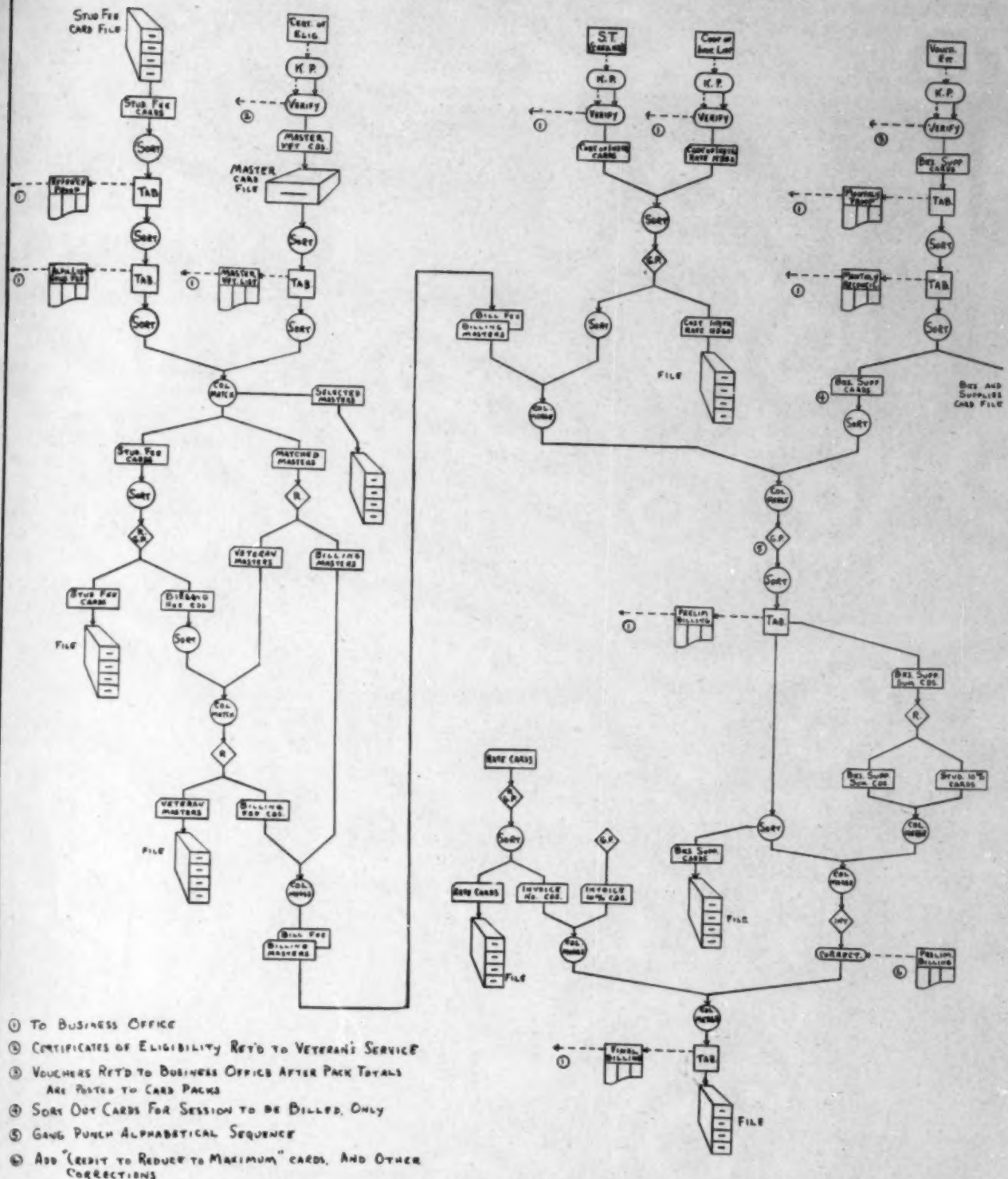
Invoice cards are now prepared and collated into the billing file, behind each group of eight veterans' bills (use is made of a card counting device on the collator for this operation).

FINAL BILLING

The final billing is now prepared. Running time on the tabulator for a veterans' billing for 6000 students approximates ten hours. Printing of headings and certifications on individual invoices can be done in eight hours. The invoices are then signed and sent to the Veterans Administration by registered mail.

Advantages of the punched-card method of preparing veterans' billings on this new type of billing form may be summarized as follows: (1) it provides for a complete audit trial in the form of a detailed ledger; (2) it affords a speedy and accurate method

VETERAN BILLING, NO. 0094



FLOW CHART OF PUNCHED CARD PROCEDURE USED IN HANDLING CONTRACTS OF THE "COST OF INSTRUCTION" TYPE

of obtaining totals and proofs and locating and correcting errors; (3) it eliminates the necessity of a large force of clerks and typists, which would be

needed in a manual procedure; (4) it provides a concise and standard billing form, and (5) it furnishes in permanent punched-card form all essential

student veteran data for use on all present and future billings, without the necessity for manual transcription and verification.

STATE UNIVERSITY OF IOWA, BUSINESS OFFICE, IOWA CITY, IOWA

Statement of Student Fees, Cost of Instruction, Books, Equipment, and Supplies Due for Veterans under Public Law 346 for period 8-7-47 thru 8-27-47 3 weeks Summer Session 1947. (This period applies for all veterans on this invoice.) Negotiated Contract VA 33r-ve-208 dated June 8, 1947.

Numbers and Course of Study	Name and Item	Initial Date of Enrollment and Semester Hours	Rate	Amount
MC758300 C 4992363	DOE JOHN A LIBERAL ARTS FEE COST OF INSTRUCTION BOOKS SUPPLIES & EQUIP CR TO REDUCE CONT MAX	06 12 46 08 HRS	5000 627	5000 5016 1279 184- 11111 *
NAB595598 C 9393816	DOE JOHN B GRADUATE FEE MUSIC FEE COST OF INSTRUCTION BOOKS SUPPLIES & EQUIP CR TO REDUCE CONT MAX	06 12 46 02 HRS	5000 2400 627	5000 2400 1254 820 4587- 4887 *
AR0753180 C 5635086 ECONOMICS	DOE JOHN C GRADUATE FEE COST OF INSTRUCTION BOOKS SUPPLIES & EQUIP CR TO REDUCE CONT MAX	09 23 45 06 HRS	5000 627	5000 3762 2580 231- 11111 *
AR0887254 C 7706831	DOE JOHN D COMMERCE FEE COST OF INSTRUCTION BOOKS SUPPLIES & EQUIP	02 04 46 09 HRS	5000 627	5000 5643 75 10718 *
AR17169378 C 7703144	DOE JOHN E LIBERAL ARTS FEE COST OF INSTRUCTION BOOKS SUPPLIES & EQUIP	02 04 46 06 HRS	5000 627	5000 3762 500 9262 *
AR37559591 C 8646095 GRAD SP	DOE JOHN F GRADUATE FEE COST OF INSTRUCTION BOOKS SUPPLIES & EQUIP UNIVERSITY SCHOLARSHIP	06 11 47 06 HRS	5000 627	5000 3762 2135 3333- 7564 *
AR0854015 C 7258148 DRAM ART	DOE JOHN G GRADUATE FEE COST OF INSTRUCTION BOOKS SUPPLIES & EQUIP	09 23 46 08 HRS	5000 627	5000 5016 10016 *
AR42156993 C10555323 CHEMISTRY	DOE JOHN H GRADUATE FEE COST OF INSTRUCTION BOOKS SUPPLIES & EQUIP	09 23 46 06 HRS	5000 627	5000 3762 8762 * 73431 * 737 74168 *
	10 PERCENT ON BOOKS ETC TOTAL FOR INVOICE	5511		

I certify that the above bill is correct and just, that payment therefor has not been received; that all statutory requirements as to American production and labor standards and all conditions of purchase applicable to the transaction have been complied with, and that State or local sales taxes are not included in the amounts billed and that no amount received from the Government is used or will be used as a rebate, prize or other payment in goods or money to the veteran-trainee.

I further certify that these materials are required and have been delivered to the enrollees and that evidence of such deliveries and expenditures are available for inspection by the Veterans Administration. I further certify that the above charges are not in excess of that charged other students.

STATE UNIVERSITY OF IOWA

Business Manager & Secretary

Final billing is prepared on six part continuous stock paper form, letterhead size. Each sheet constitutes a separate invoice and shows the detailed billing for at least eight student veterans.

RADIANT HEATING GOES TO COLLEGE

W. W. BROOKS

Plumbing and Heating Industries
Bureau

WITH THE G.I. BILL SENDING THOUSANDS of young Americans to college and with enrollments swelling to double and triple their prewar figures, institution authorities are more than ever concerned with the behavior and costs of old and new heating systems on their campuses. And a great majority see that radiant heat, draftless, controlled and economical, is one way for them to have comfortable classrooms and low fuel bills.

Radiant heat? Do we mean those hidden pipe coils carrying hot water or steam? Yes, that is radiant heat. But—and this is something too few persons realize—radiant heat is also obtained through radiators, convectors and radiant baseboards.

Everyone is acquainted with radiators as a means of distributing heat, but too few persons realize the improvements that have been made recently in radiator size and performance. The new slender tube radiators are 40 per cent smaller than their predecessors, yet they give off just as much heat. They can easily be recessed in the wall under windows, or they can be set up as free-standing radiators. Their efficiency is unimpaired in either position.

Convectors are heating units made with a removable front, having an arched opening at the bottom and a grille at the top. Air enters the convector through the arched opening near the floor and is heated as it passes through the heating unit. Before entering the room through the upper grille, the warmed air heats the enclosure front, converting it to a radiant heating panel. The front panel can be painted to match any decorative treatment, or the convector can be installed in the wall, allowing the panel to be painted or papered exactly like the rest of the



WORKMAN checking the line-up of the radiant heating coils before they are covered over. Coils may be installed in the floors, walls or ceilings, depending upon the nature of the building and upon the area to be heated. It is cheaper to install floor than ceiling coils.

room. While convectors lend themselves readily to complete recessing in the wall, they can be free-standing or partially recessed.

Radiant baseboards, the latest development in radiant heating, provide warmth at ankle height. Replacing the conventional wooden baseboard on one or more of the outside walls, the radiant baseboard is a hollow cast-iron unit approximately the same size and appearance as the wooden baseboard. Tests of the radiant baseboard at the University of Illinois Research Home have disclosed that the floor-to-ceiling temperature differential is less than 3 degrees even in sub-zero weather.

Radiant baseboards are practical as they are easy to install and can be used with any hot water, two-pipe steam or vacuum system, both in new buildings and for modernization work.

What is radiant heat, that it should have so strong a bearing on our comfort? What are its characteristics? Any heated object gives off radiant heat rays; the earth itself is warmed by radiant rays from the sun. These rays travel through the air without appreciably

raising its temperature but they warm every solid object they meet. In behavior they are much like rays because they travel in straight lines and are absorbed and reflected in varying degrees by the surfaces they strike against.

In radiant heating systems, radiant heat rays have their origin in hot water or steam, which circulates from the boiler to radiators, radiant baseboards, convectors or concealed pipe coils. The warmth felt from these radiant areas is supplemented by warm air rising from the heating units.

In selecting heating equipment for new buildings on campus, or for the modernization of old buildings, remember that there are three costs: original cost, cost of operation (such as fuel), and cost of upkeep. The cheapest heating system from the standpoint of original first cost may be the most expensive to operate.

Any type of fuel—gas, oil or coal—fired either manually or automatically, can be utilized in radiant heating. The boiler is the heart of the radiant heating system. Here is where fuel is turned into heat. Here is where efficiency counts

most. In considering the purchase of a boiler, the most important point to check is its capacity. The boiler should not fall short of maximum requirements, nor should it waste fuel by exceeding them. Insist upon having guaranteed capacity ratings. Recognized ratings of cast-iron boilers are known as I-B-R Ratings. The initials stand for the Institute of Boiler and Radiator Manufacturers. Recognized ratings of steel boilers are known as SBI Ratings. The initials stand for the Steel Boiler Institute.

There are gas-design boilers, oil-design boilers, and conversion or all-fuel boilers. Under the impetus of the I-B-R and SBI testing and rating programs, many boilers have been redesigned for compactness and efficiency.

There are three types of hot water or steam radiant heating systems: forced hot water, gravity hot water, steam and vapor.

FORCED HOT WATER

Forced hot water systems are divided into two types known as "intermittent" and "continuous" circulation systems. In the intermittent type, the water is circulated to the radiating surfaces by a small, inexpensively operated electric pump. When the room thermostat calls for heat, the pump and burner start simultaneously. The pump rapidly circulates heated water through the system until the heat requirement is satisfied, whereupon both burner and pump are stopped by the thermostat.

A control valve in the supply main supplies the final touch to accurate heat control. Whenever the pump is not running, the valve automatically closes tightly, shutting off gravity circulation and preventing delivery of unwanted heat.

In the continuous circulation type of system, the pump runs continuously. Hot water from the boiler is admitted into the circulating stream through a special valve in just the amounts necessary to offset the building heat loss. This type of system can be controlled either by a room thermostat or by an "outdoor" type of control that is actuated by outdoor temperatures.

GRAVITY HOT WATER

This system is moderate in cost and will function with either manual or automatic firing. In contrast to forced circulation systems, the operation of a gravity hot water system depends upon the difference in weight between hot and cold water. The difference in weight causes a constant movement through the

system of heated water flowing upward from the boiler and cooled water flowing downward to the boiler from the radiating surfaces. A principal advantage of this system is the simplicity and minimum of mechanical devices required for its control.

STEAM AND VAPOR

Steam heating systems are divided into two classifications, one-pipe and two-pipe. One-pipe steam is the simplest system which makes possible the use of radiant heating. The system is inexpensive to install because only one pipe is needed to circulate the steam and return the water of condensation to the boiler. It can be either manually or automatically fired. Depending upon the type of firing, the radiators can be equipped with vacuum valves which permit operation on low steam pressure or vacuum.

In a two-pipe system, low pressure steam or vapor is circulated to the radiating surfaces through one set of pipes, and the condensate is returned to the boiler through another set. Since the system is equipped with a special vacuum valve which exhausts air and prevents its return, it operates part of the time under a partial vacuum and part under very low steam pressure, which reduces fuel consumption. A further advantage of a two-pipe system is that room-by-room control of temperature is possible by merely varying the openings of the graduated supply valves installed on the radiators.

PANEL SYSTEM

Radiant panel heating is adaptable for use in institutions and commercial buildings as well as in small homes. College and university buildings usually have high ceilings, a fact that automatically creates desirability of lower temperature gradients. This is easily accomplished with radiant panels. The resulting economy becomes most significant in auditoriums or in hallways.

Let us assume you have decided to have panel heating. The next question is whether to have floor coils or ceiling coils. (The walls are infrequently used, so we shall exclude them from this brief discussion.) Advocates of the two different methods of installing radiant heating coils advance a number of theoretical arguments to support their contentions, but, from reports on almost a thousand structures now being heated by this system in the United States, no conclusive information is available except that—from a comfort

standpoint—if the system is properly designed it makes no difference whether the coils are above or below.

It does make a substantial difference, though, in installation costs; they are between 10 and 20 per cent higher if ceiling coils are used. And cost being a major factor in almost all construction now, floor coils apparently have a very definite edge.

INSTALLATION COSTS

Reasons for the extra cost of ceiling coils are obvious. It requires less time and effort to lay the coil system on a crushed stone base than it does to fabricate the elements on the ground and then suspend them from the ceiling. Moreover, ceiling coils must be fastened carefully.

A panel system like any other radiant heating system lends itself readily to "zoning" in a building. Separate circuits controlled by individual thermostats will provide desired temperatures. Zoning provides heating comfort and economy and is available with either hot water or two-pipe steam systems. Zoning a heating system is a simple matter, merely requiring that the piping be divided into as many zones as desired. Little additional equipment is required. In a two-zone forced hot water system, the flow of heated water in each zone is controlled by a thermostatically operated pump and control valve.

When heat is needed in any zone, the thermostat starts the pump in its respective circuit. The flow of water forces open the control valve, permitting heated water to circulate through the zone piping. When the heat requirement is satisfied, the pump is stopped by the thermostat, and the control valve closes, preventing further circulation.

Radiant heating units can be placed where most heat is needed. They can be placed under the windows, for example, where they meet and counteract the stream of cold air which pours down the panes and leaks in around the sash. They can be placed along the outer or colder sides of a room because it is to these surfaces that the greatest transfer of radiant heat from the body occurs. They add warmth to the floors because of the travel and penetration characteristics of radiant rays.

Hot water or steam radiant heating systems, properly installed, will give dependable service in college buildings with a minimum of attention. When a heating system needs servicing, it is advisable to call an experienced heating and piping contractor.

FIVE STEPS TO EFFECTIVE FOOD BUYING

A. A. FROOMAN

Consulting Specialist on Institutional
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Step 4

THERE ARE ONLY TWO WIDELY ACCEPTED and generally approved purchasing methods: competitive formal or informal bid buying and open market buying.

COMPETITIVE BID BUYING

By competitive formal or informal bid buying, we refer to the practice of circular advertising for bids on supplies. Purchasing directors prepare printed or mimeographed proposals and invitations to bid. These papers list the items to be purchased, set forth the applicable specifications and descriptions, state delivery points and dates, and furnish all of the information necessary for a purveyor to calculate his costs and submit quotations.

Bids are returnable by a stated date in sealed or unsealed envelopes properly addressed, according to instructions. Bid bonds, especially by governmental bodies, are required frequently with the bids. At the stated time the purchasing director publicly or privately opens the bids. Publicity is generally a requirement in governmental purchasing and is optional with the informal procedures of most institutional operations.

Circular proposals are given wide distribution in governmental buying in order to obtain maximum competition and to avoid the charge of favoritism. Newspaper advertising is used frequently. Several commercial publications provide timely information regarding invitations issued by the various purchasing agencies of the federal government. As a general rule, invitations to bid can be obtained on request to the proper department in both public and private institutions.

OPEN MARKET BUYING

The practice of open market buying is the purchasing method used exclusively by at least 90 per cent of

the commercial and institutional food buyers and is also used within prescribed restrictive limits by all public agencies and institutions. The practice simply requires the request of informal quotations from one or more convenient sources of supply and the order is placed on terms most advantageous to the buyer, price, quality, delivery and service considered.

Three other purchasing methods are deserving of attention: negotiated buying; special "blank-check" buying; cost-plus buying.

NEGOTIATED BUYING

By negotiated buying is meant the practice of purchasing products—selections, grades, varieties, types, styles, counts and sizes—in seasonal, limited or restricted production. This method provides a flexible means of getting quick, decisive action in a fluctuating market. So effective negotiated buying has proved that experienced food buyers are negotiating more and more with responsible sources of supply for selections tailor-made to fit individual requirements, thereby obtaining values that cannot be consistently matched by open market buying or by competitive bid buying.

During the war purchasing for all federal agencies was consolidated, and the army purchased all food for the government. More than 60 per cent of this country's tremendously expanded production was purchased by negotiated buying for the armed services and for lend-lease, a purchasing system that was developed for the government in 1940 and 1941.

The system of formal competitive bid buying was found much too cumbersome for direct action with the canning industry, and it was proved conclusively by war experience that the armed services were able, by means of negotiated buying, to get

what they wanted and to obtain higher quality at lower prices than by any other method.

When developing the new system of government wartime buying, it was pointed out that the canning of vegetables, fruits and fish is a highly seasonal industry; that it is carried on in thousands of communities, generally by small and middle sized canners; that the typical canner has his growers, his cannery, and a cannery warehouse, and that few canners have much, if anything, in the way of a sales organization; that the canner sells through food brokers to distant markets, and that he is not heavily financed and borrows to carry the peak seasonal operations, making quick marketing of his pack a "must."

It was further emphasized that market conditions are often quite volatile in the canning industry; that canners are accustomed to quoting a price and having it accepted or rejected immediately; that bid forms were so formidable that the smaller canners were not able to handle them even though they had quality products which they were willing to sell to the government; that even if canners were able to handle the forms, they could not bid and then wait for someone to determine whether awards would be made—they had to move their packs in a hurry.

Another important point was that a canner could sell only what he packed and that almost without exception he sells f.o.b. cannery on commercial grades, or sometimes on sample. He has no traffic department to determine delivered prices.

A canner can sell only what the harvest will produce, what nature affords. If there is a crop failure, he can deliver only pro-rata, and sometimes nothing. He cannot contract, either with the government or with anybody else, and guarantee to deliver a crop yet to be raised or fish yet to be caught. Thus, as a businessman,

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he cannot sell on any basis of guaranteed delivery or offer to furnish plus or minus 25 per cent of the amount advertised for bid. Often he cannot risk his pack until the announcement of bids, and he cannot await the determination of awards or possibly the rejection of all bids.

It was also pointed out that since the canner is always far away from the market, he cannot ship goods in the hope that inspection at the point of delivery will result in acceptance. Nor can he intelligently undertake to replace rejected goods after the crops have been harvested, the pack completed, and possibly all of it moved through other channels of distribution.

It is recognized that the purchasing method of negotiated buying requires the closest of cooperation between food buyer and sources of supply, but the possibilities are unlimited. If the War Department was able effectively to adopt the practice on such a comprehensive scale, it recommends itself to the commercial world. Its effective application in large and small establishments should prove a relatively simple problem.

BLANK-CHECK BUYING

Special blank-check buying (we use this term for want of a better name), an emergency practice brought into existence to meet the problems of war conditions, can be an effective tool in the hands of an experienced food buyer. By this practice buyers place blank-check open orders for supplies with selected purveyors with instructions to ship when, as and if available at prevailing prices for a restricted period of time, or until receipt of notification canceling such authorization to act.

Used with proper safeguard limitations and restrictions, the practice of blank-check buying is especially effective in peacetime when critical shortages of specific foods exist or are anticipated or when buyers especially desire certain special varieties, types, styles and sizes. It is a purchasing method deserving of further study and consideration by institutional food buyers, and on its record of performance merits a well earned place among accepted buying practices.

COST-PLUS BUYING

The practice of cost-plus buying is a purchasing method by which buyers place orders with purveyors for speci-

fied products or for their entire requirements at actual purveyor's cost, plus a fixed fee for services. It has some excellent points but, unfortunately, the practice lends itself to abuse. Experience emphasizes that great care should be exercised when entering into cost-plus agreements.

To develop a buying procedure tailor-made to fit the needs and problems of a particular commercial operation or institution, one or all of the purchasing methods outlined may well be incorporated. No two operations are exactly alike and there can therefore be no such thing as one best answer.

SIXTEEN CONSIDERATIONS

Each buyer, in order to determine his own course of action and before adopting a buying procedure, should definitely consider the following sixteen points.

1. Policy of Ownership and Management. This point, as the term signifies, refers to the system of operation and management adopted and put into practice as best adapted to the interests of ownership, management and the public or classes of trade with which it has direct business relationship.

2. Type of Dining Service. Each type of dining service provokes new problems of use, cost limitations, and selections that directly affect buying procedures, and is a factor that cannot be disregarded.

3. Operating Problems. In addition to operating problems incidental to the type of dining service, buyers are confronted with the problems of classes of people catered to; local habits and tastes; menu selections (extensive or restrictive); pricing scales and per portion cost limitations; daily serving schedules, and peak loads; seasonal fluctuations, and especially important, trained personnel.

4. Financial Structure and Buying Power. The ability to consolidate requirements and thus take advantage of shipping economies and quantity, seasonal or special offerings.

5. Personal Property Tax Laws. In many states, taxes on inventory add so much to costs that it can be much more advantageous to purchase supplies as current needs necessitate unless great care is exercised prior to tax assessment period.

6. Inventory, Insurance, Warehousing, Cold Storage, and Handling Costs. Somebody has to take care of these

charges once foods are processed, whether it be packer, purveyor or institutional buyer, and the question is, "When is it advisable for the institutional food buyer to take over the job and to what extent?" Space rentals, wages for trained personnel, and proper cost accounting will help determine the answer in each case. It is surprising how quickly inventory costs can add to seemingly low invoice prices.

7. Physical Conditions (including general layout and equipment, dining room accommodations, kitchen space, and receiving, warehousing, cold storage facilities). Poor physical conditions can add to overhead costs and at the same time make it impractical to operate on other than a hand to mouth basis unless special arrangements are made with the purveyors to provide necessary compensating service.

8. Importance of Consistently Uniform Quality, Grades, Varieties, Types, Styles, Counts and Sizes. Certain selections are available only during packing or processing seasons. Unless arrangements are made to provide for requirements, substitutes or alternates must be accepted with accompanying inconveniences and often with added costs. Still other selections are available only in limited quantities. Unless requirements are provided for when those products can be had, buyers are forced to accept the next best.

9. Sources of Supply (dependability, convenience, availability of selections, service and cooperation). The friendship and cooperation of responsible and well established sources of supply can be the food buyer's greatest asset. This fact was never more apparent than during the war and many an institutional food buyer for the first time came to understand and fully appreciate the importance of carefully picking sources of supply.

Instead of being defined as a selling organization, the term "source of supply" is fast gaining interpretation as an organization of buying specialists, men who have made a lifelong study of the food industry and who, because of their specialized training, are qualified to make selections in foods tailor-made to fit the individual needs of each commercial establishment or institution.

The ability to analyze and provide in anticipation for the year's requirements of all types and classes of com-

mercial establishments, and public and private institutions, plus the capacity and desire to counsel, cooperate and serve, determine, in a great measure, the relative merits of sources of supply.

10. Canning Seasons. A thorough knowledge of canning and processing seasons is essential to timely buying. Foods are canned commercially in just about every state in the Union, and the more the buyer knows about the seasons for each product in each state, the better buying job he will be able to do.

11. Nation's Civilian Needs. Average total annual domestic food requirements can be fairly accurately determined. People can eat only so much. The needs for a particular product, however, can be estimated only by what has been used in previous years. Because so many contingent factors arise each year to influence or affect consumption, estimates are oftener than not pretty rough.

12. Government Needs. During the war this factor rated top priority and institutional food buyers who experienced the operation and effects of the Office of Price Administration and the War Production Board won't soon forget all the rules and regulations with which they had to contend.

In peacetime, however, while government needs are quite extensive, their effects on available stocks and selections are much less marked and in some measure can be compensated for by knowledge of historical records of use for previous years, and by early government estimate releases.

13. World Needs. Right now world needs are receiving spotlight attention and consideration, and government needs for world reconstruction, diplomatic reasons, and worldwide reciprocal trade agreements are biting heavily into our nation's food reserves. While these emergency requirements exist, it is exceedingly difficult for institutional food buyers to map an effective buying program for all products.

As nations return to normal pursuits and supplement their larders by increased home production of the food essentials, the attention of institutional food buyers will be primarily concerned with the normal development of world export markets and special reciprocal trade agreements. These are factors that can, with experience, be weighed and reconciled.

14. General Market Conditions.

Government reports, trade paper publications, popular magazines, daily papers, and radio networks constantly assemble and release information which indicates current conditions and trends that food buyers can study. In addition, many private agencies, for a fee, provide valuable information and reporting services that can be used to substantiate and supplement daily or periodic public releases.

The economic situation—particularly current and anticipated business volume and profits, employment, wages and income, bank deposits, commodity markets and trends, car loadings, and all the other elements that affect or produce purchasing power—plus crop reports, size of current packs, reported carryovers, and last five and ten year production averages for major products are among the factors that should receive the careful attention and consideration of institutional food buyers.

15. Keeping Characteristics of Each Product. Experience teaches that with proper care and the observance of a few precautions canned, frozen, dried and processed foods can be preserved in excellent condition for surprisingly long periods.

By their very nature some products will stand up better and for longer periods than others. All processed foods will retain full value long enough for all practical purposes if proper storage conditions are provided.

Avoid extremes of heat, cold and moistures in storing canned foods. High storage temperature represents the condition which particularly should be avoided. Such storage conditions will adversely influence color, flavor and texture in canned fruits. Similar, though less pronounced, changes will also occur in canned vegetables and seafoods subjected to severe storage conditions. Except for a slight breakdown of texture of a few products, a single thawing and freezing does not usually have injurious effects on canned foods.

Frozen foods should be kept frozen until ready for use. Thawing and refreezing will adversely affect quality.

Dried fruits are semi-perishable. While they will stand up for a reasonable time in normal temperatures, for proper long time preservation they should be kept in cold storage, preferably at temperatures between 40 and 50 degrees.

16. Extent of Buying Organization

and Personnel Time Value. The buying organization of a commercial establishment or institution may consist of an elaborate departmentalized staff of buyers, technicians, dietitians and other specialists besides secretaries, typists, clerks, storekeepers and warehousemen, and at their command, completely equipped laboratories with the latest in testing devices, modern warehouses, cold storage plants, and every other modern physical convenience or, as is most often the case, it may mean only one individual with a hundred and one other duties shouldering the added important responsibility of buying everything from food to thumb tacks.

Without a buying procedure developed to fit specific needs and problems, neither type of organization can do an effective food buying job.

The elaborate organization needs a buying procedure to center responsibility and control, standardize and simplify selections, avoid waste, and consolidate operations. The one-man organization needs a buying procedure to conserve his time and energy.

USE OF ALL METHODS

After considering all factors involved, a buyer's course of action might conceivably incorporate all known purchasing methods and dictate the commercial practice of:

1. Purchase of immediately available floor stocks for prompt shipment in one delivery, commonly termed "spot purchase."

2. Purchase of ready available stocks on contract basis for shipment at stated intervals or as needed over a specified period, commonly termed "spot contract purchase."

3. Purchase of stocks at firm prices to be shipped in one delivery when packed at some future date, commonly termed "future delivery purchase."

4. Purchase of stocks at firm prices to be shipped at stated intervals or as needed over a specified period when packed at some future date, commonly termed "future contract purchase."

5. Purchase of stocks to be shipped in one delivery when packed at some future date subject to approval of price when named, commonly termed "S.A.P. purchase."

6. Purchase of stocks to be shipped at stated intervals or as needed over a specified period when packed at some future date subject to approval of price when named, commonly termed "S.A.P. contract purchase."

SHALL TOWN TAX GOWN?



M. M. CHAMBERS

American Council on Education

THE PERENNIAL ARGUMENT ABOUT the plight of the local political subdivision that has a large tax-free institution within its boundaries goes on. Two decisions of early 1948, in two populous states, have contributed something toward setting the ancient controversy at rest. One of these cases concerns a great midwestern state university. The other involves a privately controlled college in New York.

In a sort of omnibus complaint, asking somewhat incoherently for many remedies, a citizen and taxpayer of Ann Arbor sued on behalf of himself and other taxpayers, asking that the city be compelled to tax the property of the University of Michigan within its jurisdiction; that the property be placed on the local tax rolls; that the regents of the university be compelled to contract with the city for fire and police protection, street maintenance, and sanitary services; and that an accounting be had for the cost of these services furnished by the city to the university over the last forty years.

The contention was that the city is now, and has been for many years, giving free fire and police protection and other services to the property of the university, the reasonable value of such services being something like \$200,000 a year; and that the university holds tax-free some \$20,000,000 worth of buildings and other facilities not used for educational purposes exclusively and therefore unquestionably taxable.

The Washtenaw circuit court dismissed the complaint, and this judgment was affirmed by the supreme court of Michigan. The reasons for this conclusion were multiple. In the first place, the property of the university is property of the state, and the suit was consequently essentially a suit against the state. A historic principle of Anglo-Saxon law makes the state

immune from suit unless it gives its permission to be sued.

Not wishing to invoke this somewhat arbitrary device as the sole support of its judgment, however, the court stated other reasons. Noting carefully that the suit was brought by an individual, and not by or on behalf of the city, the judge said: "The court in chancery cannot substitute its judgment for that of the proper municipal authorities, or the board of regents, as to whether taxes should be levied or contracts entered into to provide for the furnishing of police facilities by the city. We are unable to conclude from the facts and circumstances alleged in appellant's bill of complaint that either the appellant or the taxpayers of the city of Ann Arbor are being deprived of property without due process of law."

Specifically on the question of payments under contract in lieu of taxes, the tribunal concluded, "It is not for the court to consider the propriety of a contract between the city of Ann Arbor and the board of regents, for the city to furnish police or fire protection or other public facilities for state property within the corporate limits."¹

The court did not infer or imply that possible payments by the regents in lieu of taxes would be a misapplication of public funds entrusted to them; nor did it elaborate upon the generally accepted doctrine that dormitories, dining halls, union buildings, and recreational facilities operated by a university are all a part of its educational design and within its general educational purpose, as well as classroom and laboratory buildings or libraries.

The Thomas G. Clarkson Memorial College of Technology offers courses in engineering, chemistry and business

¹*Lucking v. People*, (Mich.), 31 N.W. 2d 707 (1948).

administration. Located in Potsdam, Lawrence County, N.Y., it found great expansion of its facilities necessary in recent years, and accordingly bought several houses in Potsdam and also opened a branch institution at Malone in Franklin County. The litigated issue concerned the taxation of six houses in Potsdam which had been purchased and used largely for housing students in 1946, but during the following year gradually were converted largely to the housing of faculty members.

This raised the ancient issue of taxing professors' houses owned by a college and brought forth some clear-cut comment from the judge of the local supreme court. First noting that the physical location of the houses is immaterial if they are part of an integrated and articulated educational system operated by the college, he then proceeded to brush aside any alleged distinction, from an educational viewpoint, between housing for students and housing for faculty members.

"I can find no justification for making a distinction between a dormitory, either simple or elaborate, in which students may room at a stated rental, or a dining hall, in which they may buy their meals, on the one hand, and, on the other, a dwelling or an apartment in which one of their teachers may live, either alone or in common with his family, eating, sleeping and, of course, performing necessary out-of-class tasks, even though, in it, as a private residence, he might choose to assert his rights of castle."

The judge thought judicial sanction ought to be given to the administrative policy of regarding faculty residences as exempt from taxation when owned by a tax exempt educational institution for that purpose. The old distinctions as to payment of rentals as against free rent as a part of compensation, so carefully made in early Massachusetts decisions, he regarded as not properly material, because they go to the form rather than the substance of the relationship and are obviously subject to manipulation. Accordingly, all the houses in dispute were stricken from the tax rolls except one which was leased to an occupant not connected with the college in any capacity, under a condition in the lease that if she kept any roomers or boarders, they must be students or faculty members of the college.²

²*Application of Thomas G. Clarkson Memorial College of Technology*, (N.Y. Sup.), 77 N.Y. S. 2d 182 (1948).

LOOKING FORWARD

Conventions—Profit or Loss?

THE SPRING AND SUMMER RASH OF CONFERENCES and conventions has come and gone—and who's the wiser? Did attendance at a convention enhance personal professional growth and represent a profitable investment by the institutions involved? If not, something's wrong.

Conventions can be a colossal waste of time. Some of the glaring weaknesses are quickly ticked off: poor organization, emphasis on trivia, verbosity, glittering generalities, a social whing-ding.

Considerable convention time can well be allocated to training or study groups. Such emphasis returns the delegate to campus better qualified to perform his daily tasks. A how-to-do-it approach to problems is profitable to all. Preliminary "briefing" on specific problems in advance of the convention equips the delegate with an appreciation of program emphasis, and this results in intelligent participation during the sessions.

What should a convention do for a delegate? It should result in professional growth through study of new technics, objective self-analysis, observation of trends that will determine future action, and general job improvement. But this end-result cannot be accomplished by careless programming or excessive time allocated to flap-doodle. The favorite error made at conventions is to trot out the local bigwig for a speech, whether he has anything to say or not.

Conventions should be a training ground or refresher course for the job ahead. Emphasis should be on covering a few subjects intensively. Some convention programs look like a political platform: something for everybody, but nothing significant for anybody. Overprogramming, with its consequent superficiality, makes no contribution to the delegate; it merely serves to confuse him. It is better to restrict the program to significant issues or problems—and do a superlative job—than to dissipate the attention and energy of the delegates. For the delegate can fight back by staying in his hotel room until the worst of the oratorical storm has blown over.

Staging and programming a convention for college administrators are not simple. Those in charge

must make certain that the objectives of the convention are kept firmly in mind and must avoid the clutter of incidentals. College administrators are busy people, who resent waste of time.

Where Are We Going?

NINE OUT OF TEN PEOPLE DRIFT THROUGH LIFE. The tenth knows his objectives and has formulated plans in order to reach them.

Possibly colleges tend to fall into the same relative proportions. For every institution that has clear-cut objectives there are many that sail without rudder or charted course.

What of this business of higher education? Is it providing higher education in the full sense of the word, or is it slavishly following the past or chasing the pedagogical fad of the moment?

What about the students? Has the institution gone "G.I." crazy and accepted more veterans than it can instruct adequately? What's the emphasis: vocational training or the ability to think? Is the educational job superficial, meriting the criticism of slap-dash instruction and country club atmosphere?

To provide the best in education is the serious concern of college administrators, those closest to higher education know. Specific objectives outlined by trustees and administration will aid in giving direction to education. The general public wants to know where we are going, so it seems to be the part of wisdom to state our own educational goals.

How to Be a Good Boss

THE FIRST DECISION TO BE MADE IS THAT ONE is not to become a "boss" in the first place. "Boss" implies officiousness, and officiousness is not sound personnel administration.

To elicit respect for leadership a good executive works with his associates in such a way as to challenge and to inspire them. Demonstrated competency and sympathetic consideration of the human factor will develop a loyalty among staff members that can never be obtained by officiousness.

The fellow who knows his own job and can stimulate others to substantial performance has within him the virtues of genuine leadership. He doesn't get that way by throwing his weight around.

QUESTIONS AND ANSWERS

Check Fire Equipment

Question: In general, how frequently should fire hose equipment in college buildings be replaced? What is the life expectancy or efficiency of portable fire extinguishers?—H.S.U., Neb.

ANSWER: At M.I.T. linen fire hose used in hose cabinets in the buildings has lasted from ten to fifteen years, depending upon the location. The condition of the hose is checked by our fire insurance inspector every two years and some hose is replaced each year. Each time a hose is used the rack is refilled immediately with dry hose and the wet one is thoroughly dried before being used in any other location.

Regarding the portable fire extinguishers, CO₂ type of extinguishers are conditioned every two years; the soda and acid, foamite and similar types are recharged and given a hydrostatic test every two years, which is a state requirement in Massachusetts.

With reasonable care, the life expectancy of a soda and acid extinguisher might be from ten to fifteen years. However, in the meantime it might be necessary to replace such parts as hose, cages and gaskets.—CARL M. F. PETERSON, *superintendent of buildings and power, Massachusetts Institute of Technology.*

To Whom Responsible?

Question? From an administrative point of view, to whom should the college union director be responsible—the president, business manager, or what have you?—K.T.W., Minn.

ANSWER: A union director should be, and usually is, responsible primarily to the governing board that represents the members and users of the union building—students, faculty, alumni. He is in the position of the director-general of any large cooperative venture, reporting to and taking policy guidance from a board of directors that represents the stockholders.

The union board, like an athletic council, is responsible in turn to the college trustees through the college president and business manager.

This means that in matters of administration which are set by the col-

lege as parent organization for all departments and boards the union director is usually responsible to the president in those areas of student welfare and education for which there are established college procedures, and likewise to the business manager in established financial procedures.

Wise college trustees and administrators, however, give the maximum latitude consistent with their own obligations to the union's board of directors in all matters, since the union of its nature is a venture in community self-government and, perhaps more than any other college enterprise, is designed for the precise purpose of giving students a chance to shape and to direct their own college life in the democratic way.—PORTER BUTTS, *director, the Wisconsin Union, University of Wisconsin.*

Handling Student Loans

Question: What should be a college administrator's attitude on student loans? Should such a loan be arranged as a strictly business proposition or should some leniency be permitted?—B.W.T., Tex.

ANSWER: The attitude of the college administrator toward student loans will depend to some extent on the terms of the gifts by which donors establish such loan funds. If the donor indicated that loans from the fund he established are to be considered primarily as moral obligations, the college administrator's attitude will be governed accordingly.

Making of a loan is an experience that many students will undoubtedly repeat during their lives after they leave college. It is, therefore, an opportunity for a college administrator to perform an educational function by approaching the matter on a business-like basis. This can be done by requiring the student to plan the use to which the money shall be put, as well as to give some thought to the method by which the loan will be repaid. The failure of a college administrator to impress upon a loanee the fact that by making the loan an obligation is incurred that should be carefully and properly considered will result in a disservice to the student.

Consequently, it is my feeling that the regular student loan should be approached from an educational, as well as a business, point of view.—W. A. BODDEN, *comptroller and treasurer, Smith College.*

Centralize Personnel

Question: Should there be a centralized personnel office responsible for employment and employee records in a small college with 125 nonacademic employees?—D.M.W., Conn.

ANSWER: There is considerable doubt as to whether a staff of this size can justify the establishment of a separate central personnel office and staff. I do believe, however, that employment records, salary controls, and general personnel relationships should be centralized in some one single agency or office and that to one college administrative officer should be delegated the general oversight of these matters. If these duties and responsibilities can be combined with those of some other office, fine; if they cannot be readily so combined, then it may be desirable to consider setting up a small separate personnel organization.—DONALD DICKASON, *director of nonacademic personnel, University of Illinois.*

Student Loans Available

Question: What is the current practice of colleges relative to loan funds for G.I. students who have exhausted their period of entitlement for education?—D.F., Va.

ANSWER: Our observation is that, when a veteran has exhausted the period of his educational entitlement, he is generally considered eligible for the same types of financial assistance as are nonveteran students. Inasmuch as most colleges and universities report that a large percentage of their available student-loan funds are not in use, it would seem that a valuable service might be rendered to the G.I. students by calling their attention to the availability of student loan funds as a means of continuing their education after the period of their educational entitlement is exhausted.—JOHN DALE RUSSELL, *director, division of higher education, U.S. Office of Education.*

NEWS

Draft May Not Interrupt Studies of Many Students . . . Would Give Colleges Voice on State Agencies for Surplus Property . . . Rise in Postal Rates to Affect Catalog Mailings . . . Asked to Include Education in Marshall Plan

Washington Correspondent: BEN BRODINSKY

For Some Men Draft Will Not Prevent Four Years in College

WASHINGTON, D.C.—Despite the draft, it will be possible for many young men to enroll and remain in college, in some instances for a full four-year education.

National Draft Director Hershey announced that 19-year-olds will be the last to be called for induction (with the 25-year-old group first). This ruling gives prospective college students an opportunity to enroll this fall and immediately to become eligible for deferment for the first academic year. Any student may at any time also seek deferment from local selective service boards on the basis of Section 6(h) of the draft law under which persons engaged in study may have their induction postponed.

The National Security Resources Board will also soon recommend to the President that students preparing themselves for occupations and professions that will suffer a shortage of personnel in the near future be exempt. These include doctors, chemists, physicists, electrical engineers, electronics, radio and aeronautical engineers, bacteriologists, nurses and pharmacists.

In short, the present mood in Washington is to disturb as little as possible the plans of men who are qualified to enroll and remain in college.

The law itself is liberal in deferring R.O.T.C. students (within limits set by the Secretary of Defense).

The Secretary of Defense has authority to prescribe the number of persons which the army, navy and air force may select for enrollment in the senior division of R.O.T.C., thus automatically deferring this group.

Regular N.R.O.T.C. students (U.S. naval reserve midshipmen) are exempt

once they are selected for training. Contract N.R.O.T.C. students are subject to deferment within the quotas set by the Secretary of Defense.

School-Spaghetti Factory Bill May Reach Senate

WASHINGTON, D.C.—The special session of Congress revives the threat that the controversial revenue revision bill, H.R. 6712, may be enacted. This measure, which would require some educational institutions to file an annual return of income, was quickly enacted by the House on June 19. With the recall of Congress the measure is now before the Senate finance committee for action.

Educators in Washington, most of whom oppose the bill, are concerned over the ease with which it slipped through the House. They are on the alert to the possibility of quick Senate passage, without an opportunity being given again to present the arguments of college executives on this measure.

One spokesman for education declares that the measure represents a first step to possible taxation of non-educational enterprises under control of educational institutions. Actually, the bill calls only for a return of annual gross income from institutions that have receipts of \$25,000 or more from noneducational enterprises.

Reports coming to Washington show that many educators who do not object to the principle of filing a return, object to Internal Revenue Form 990 on which it is proposed the annual income be filed. This form, they claim, was designed for commercial enterprises and is unsuited for educational institutions.

At the present time, however, the Bureau of Internal Revenue plans to use Form 990, should the bill pass.

Says Colleges Need Voice on State Agencies Handling Military Surplus

WASHINGTON, D.C.—Colleges and universities should have a greater representation on each state educational agency for surplus property if they are to get a fair share of army-navy donations possible under Public Law 889.

So says A. L. Harris, the Office of Education's surplus property utilization chief. Mr. Harris' bureau will be responsible for administering P.L. 889, which authorizes the military to donate excess and obsolete property for educational purposes.

Mr. Harris estimates that during this fiscal year the military will declare about \$150,000,000 of surplus.

"Those state educational agencies for surplus that do not have adequate representation from colleges and universities should correct this defect. It is certainly the intent of the law that all levels of education should share in the property donated by the military," Mr. Harris said.

Army, navy and air force representatives plan to issue uniform rules for property donations by August 15.

Curtain Down Aug. 31 on War Surplus Items

WASHINGTON, D.C.—The not-too-happy story of surplus war property for education comes to an end on August 31.

In a law (P.L. 862) which halted all declarations of surplus property by the military, the Congress also ended the priorities and preferences system for education. Also discontinued after August 31 are discounts heretofore granted to public health and educational institutions.

Whatever surplus property remains on hand after August 31 will be sold

through competitive bid offerings. Public and private schools will compete with commercial bidders for materials.

"We must dispose of all personal property by December 31," said War Assets Administrator Larson, "and we're going out of business altogether by February 28."

As of July 15, there was little personal property in the warehouses of the W.A.A.—not more than \$400,000,000, much of which is unusable. There remained in the W.A.A. inventory, however, \$4,000,000,000 of real property.

III. Tech Has Student Health Insurance Plan

CHICAGO.—Illinois Institute of Technology has adopted a student health insurance program effective this fall, according to John F. White, dean of students.

"The plan will augment the present clinical facilities," he said. "Coverage is designed to protect the student at all times wherever he may be during the school year." If a student desires coverage for the remainder of the calendar year, insurance is available for an additional \$6.

Costing \$7 a semester, the insurance will be compulsory for all residents in Illinois Tech residence halls and houses and will be voluntary for all others.

The plan includes hospital board and care, medical attention, and surgeons' fees. Maximum coverage is \$500 for each injury or illness.

Rise in Postal Rates Can Affect Catalog Mail

WASHINGTON, D.C.—New postal rates, affecting colleges and universities that make wide use of third class mailings, go into effect January 1.

The rate for catalogs of 24 pages or more and weighing 8 ounces or less each goes up from 1 cent for each 2 ounces to 1½ cent for each 2 ounces.

Rates for catalogs of 24 pages or more, mailed in bulk at 20 pounds or 200 pieces, rise from 8 cents to 10 cents per pound.

The annual fee for mailings of third class matter at bulk rate will now be \$10 a year.

Second class matter rates, at which many college catalogs are mailed, have not been increased.

Marshall Plan Head Asked to Include Education and Training

WASHINGTON, D.C. — Will the Marshall Plan soon be broadened to include education and training for European nations?

Paul G. Hoffman, economic cooperation administrator for the Marshall Plan, has a memorandum on his desk, submitted to him by four educational groups, maintaining that training and education are as important to Europe as food and equipment. The memorandum therefore urges that Marshall Plan money be used for training European manpower and for providing books, training facilities, advanced study grants, and other educational and scientific opportunities.

The memorandum was presented to Mr. Hoffman by the American Council of Learned Societies, the American Council on Education, the National Research Council, and the Social Science Research Council.

"If the goals of the Marshall Plan are to be achieved," the memorandum says, "the needs of the European countries for skilled manpower should be given careful consideration."

Washington officials explain that although the law creating the Economic Cooperation Administration leaves the door open for providing funds for education and training, Mr. Hoffman has refrained from doing so for fear of being accused of "educational imperialism."

Officials say further that requests for educational and training aid must come from the foreign country through diplomatic channels to the E.C.A. What priority such requests would be given by Mr. Hoffman is an unanswered question at this time.

However, Mr. Hoffman's associates say that he is studying the memorandum "with a favorable attitude."

No Money Voted for Exchange Students, Faculty

WASHINGTON, D.C.—The State Department says that no exchange of students, teachers and other educational persons will take place with European countries this year because Congress failed to provide money for this activity.

The State Department asked Congress for \$5,000,000 to pay for the ex-

change of persons authorized under the permanent Smith-Mundt Act, passed in January. The appropriations committees of both houses failed to act on the request during the regular sessions of the 80th Congress.

Attacking this inaction, Senator Fulbright (Dem.) of Arkansas said: "This is but another instance of the practice that has become common that a legislative act is adopted in Congress by a substantial majority, only to be disregarded by the appropriations committees."

Sen. Ball (Rep.) of Minnesota replied that the State Department presented its budget "in insufficient time for careful consideration."

Exchanges of educational personnel under the Smith-Mundt act is part of an overall world educational program, including the "Voice of America," carried on by the U.S. Department of State.

Delegates From 32 States Attend Food Institute

CHICAGO.—Methods and technics to be employed in controlling food service costs highlighted the sessions of the College Food Service Institute held the last week in July. The three day meeting was sponsored jointly by Northwestern University and COLLEGE and UNIVERSITY BUSINESS.

During the first day's sessions, institute delegates studied methods of cost control and reviewed principles of organization of a food service department.

On the second day emphasis was on purchasing technics, inventory control, and the proper layout and maintenance of kitchen and cafeteria equipment.

Featured the last day of the institute were discussions on personnel administration and sanitation, as well as a demonstration of modern technics in cooking.

Social highlights of the meeting were a reception and tea at Abbott Hall on Northwestern's downtown campus and a luncheon at a well known French restaurant.

Registrations for the College Food Service Institute were received from more than 100 colleges and universities; enrollment reached capacity of 125 delegates from 32 states. They came from California to Maine, Florida to Washington, and Texas to Canada.

Northwestern Raises Faculty Pay 10 per Cent

EVANSTON, ILL.—Northwestern University will raise the salaries of its full-time faculty and staff and increase the amount of its scholarships and fellowships, beginning September 1. This action is revealed in the university's operating budget for 1948-49, just approved by the executive committee of the board of trustees. Totalling \$14,326,760, the budget is the largest in the history of the university and represents an increase of \$783,306, or almost 6 per cent over the budget for 1947-48.

Salaries of the full-time faculty will be increased by an average of 10.07 per cent. The university will also contribute \$110,000 toward larger faculty retirement allowances. With these increases, the average salaries of the four faculty ranks of the university will be as follows: full professors, \$7620; associate professors, \$5797; assistant professors, \$4567; instructors, \$3546.

The budget also provides salary increases averaging about 5 per cent to nonacademic employees. Stipends of graduate assistants will be raised from \$900 to \$1050, in addition to free tuition. Student aid, including scholarships and fellowships, will be increased from this year's \$230,072 to a total of \$326,542, almost 42 per cent.

Ohio State Seeks FM Broadcasting License

COLUMBUS, OHIO—Ohio State University will apply to the Federal Communications Commission for an educational FM radio station license, President Howard L. Bevis announced recently.

The new transmitter would be installed at the site of the university's present station on its golf course. The university plans to operate the FM radio station in conjunction with its present 5000-watt AM transmitter, which broadcasts daily on a frequency of 820 kilocycles.

Columbia Man Resigns Protesting Polish Grant

NEW YORK CITY—Gen. Dwight Eisenhower, president of Columbia University, recently announced that he had accepted the resignation of Dr. Arthur Prudden Coleman, assistant

professor of Polish language and literature at Columbia for the last twenty years. Dr. Coleman announced recently that he was submitting his resignation as a protest against the acceptance of a grant from the Polish government for the founding of a new chair of Polish studies. He stated that he opposed the acceptance of money from Poland or any satellite government of Moscow by Columbia or any other university.

In accepting Dr. Coleman's resignation, Gen. Eisenhower expressed regret that Dr. Coleman felt it necessary to leave and pointed out that the establishment of the new chair was in accord with the long-time policy of the university. The general pointed out, however, that if the incumbent of the chair attempts to infiltrate the university with philosophies inimical to the American form of government "the chair will be at once discontinued."

Rutgers Opens Evening College Unit in Paterson

NEW BRUNSWICK, N.J.—Responding to a demand in the Paterson area for increased opportunities for public higher education, Rutgers University will open an evening college unit next fall in the Paterson State Teachers College, according to a statement by Dr. Robert C. Clothier, president of the university.

The new center will provide a four year college course in liberal arts and business administration. It will bring college training within reach of many employed persons; veterans who had started work under the emergency two-year program at the teachers college will have the opportunity to complete their courses.

Fewer Summer Students

NEW YORK CITY.—The city's four municipal colleges announced that for the first time since the end of World War II summer session enrollment did not exceed previous records. The total enrollment this year was 18,112, as against 19,675 persons enrolled in summer courses in City, Hunter, Queens and Brooklyn colleges last year. Robert L. Taylor, registrar of City College, attributed the decline to the sharp decrease in the number of veterans registered.

Public School Teachers May Replace College Men as Census Takers

WASHINGTON, D.C.—Census taking, which in years past provided short-time employment for college students, may in 1950 be carried on entirely by public school teachers.

The census bureau is trying to convince public school authorities that enumeration, "being a professional task should be carried on by professional people." The census bureau therefore proposes that public school teachers be given a free week during April 1 and 15, 1950, to take the population and agriculture census. In 1940, enumerators were paid an average of \$6 a day. The pay in 1950, depending on economic conditions, should be considerably higher.

National and state school authorities are now discussing the proposal, with some opposition to it being voiced. Should use of public school teachers be shelved, an alternate proposal is to use college students on a large scale as enumerators.

Princeton's New Library Ready for Fall Term

PRINCETON, N.J.—Princeton University's new \$8,000,000 Harvey S. Firestone library is expected to be completed and equipped for use for the fall term, according to an announcement recently made by Dr. Julian P. Boyd, chief librarian.

Some 800,000 books and 500,000 other items are being transferred from older libraries on campus. The buildings being evacuated will be converted for faculty and administration officials.

The new library is intended to provide space for 1,800,000 volumes. It will have seating space for 1875 readers and cubicles for 500 students, besides offices and other facilities. The building consists largely of modular units measuring 18 by 25 feet. The principle of the open-stack library is being applied so that students can go to the stacks without hindrance.

A six-story structure, the new library is built on a slope with its main entrance facing the university chapel. The three lower floors are below ground on the chapel side of the library, but the slope leaves them open on the opposite side where windows admit daylight from the north.

Studebaker's Farewell Speech to Co-Workers Asks Independent Office

WASHINGTON, D.C.—In a farewell speech to his co-workers on July 14, John W. Studebaker, retiring commissioner of education, stressed:

1. That he was not brought to Washington in 1934 as head of the U.S. Office of Education by Henry Wallace. This rumor was widely repeated in Washington during July. Dr. Studebaker declared there was no foundation for it.

2. That he has always avoided mixing education with politics. Dr. Studebaker said that during his fourteen years of service "no one has ever asked about his politics" or sought to implicate the Office of Education in political deals. He stressed the fact that to ensure a continuance of a politically free Office of Education, it should be taken out of the Federal Security Agency and made an independent unit.

Dr. Studebaker, who became vice president of Scholastic Magazines, also plans to teach educational administration (part-time) at Teachers College, Columbia University.

Meanwhile, as Federal Security Administrator Oscar Ewing scours the country for a candidate for the \$10,000 a year commissionership, Rall I. Grigsby is acting commissioner.

R.O.T.C. Deferments to Number 126,400 Men

WASHINGTON, D.C.—A total of 126,400 students in army, air force and navy R.O.T.C. are eligible for deferment under the 1948 Selective Service Act.

In announcing these quotas, Defense Secretary Forrestal apportioned this figure by classes for the three services as follows: freshmen, 69,500; sophomores, 34,200; juniors, 22,700. (The army will take most of the men.) All seniors enrolled in R.O.T.C. are deferred under Section 6(d) (1) of the act.

By the end of August the three military departments will send to individual colleges notice of the number of deferments to which each institution is entitled within these overall quotas.

The Secretary of Defense says that students deferred in R.O.T.C. courses are not exempt from registration under

the Selective Service Act. Further, each student must sign an agreement to accept a commission, if offered at the completion of his course, and thereafter to serve not less than two years on active duty. This signed agreement will authorize deferment so long as the student continues in his training course.

Army Wants Officers With College Education

WASHINGTON, D.C.—Regular army officers should have at least two years of college education, the Department of the Army believes. But about 2500 officers are below this minimum. The army is therefore beginning a drive to enroll these educationally substandard officers in classroom or correspondence college courses.

Officers must carry on their school work "while performing military duties." The program is voluntary and "must be initiated and pressed to its conclusion by the officer himself," says Lt. Col. T. J. O'Connor of the General Staff.

A passing grade on the cooperative general culture test (sophomore) or a transcript of grades from an accredited college will satisfy the army's minimum educational standards.

Russian Publications Listed by Library

WASHINGTON, D.C.—A new government periodical should help institutions to inaugurate or expand programs of Russian studies.

The Library of Congress began recently the publication of a *Monthly List of Russian Accessions*. This is a record of books, monographs and periodicals in the Russian language currently received by the Library of Congress and a group of cooperating libraries. The first issue of the *List* includes a total of 400 entries on agriculture, education, fine arts, geography and geology, history, philosophy and religion, law, medicine, music and theater, science and technology.

Although criticized by Representatives Rankin (Miss.) and Taber (N.Y.) as "a waste of money," the *List* has been described by educators as "valuable to American scholars."

The *Monthly List of Russian Accessions* is available from the Library of Congress, Washington 25, D.C., at \$2 a year.

Student Personnel Pamphlet Issued

WASHINGTON, D.C.—How to set up, administer and improve a college student personnel program will be the subject of a new American Council on Education pamphlet, scheduled for publication in September.

The publication will constitute a new edition of a 1937 brochure, now out of print, entitled "The Student Personnel Point of View."

The discussion will cover student admission and selection, orientation to the college environment, cumulative record keeping, counseling, health and housing programs, student financial aid, "and all other services needed to keep students adjusted in school."

The committee in charge of the work is headed by E. G. Williamson, dean of students at the University of Minnesota.

Memorial Fund Honors Yale's 513 War Dead

NEW HAVEN, CONN.—President Charles Seymour of Yale University recently announced that a scholarship and fellowship fund of at least \$10,000,000 will be established as a memorial to the 513 alumni who died in World War II.

President Seymour, in commenting upon the memorial fund, stated, "A joint committee of the alumni board of the university council gave the most careful consideration to the type of memorial that would be most suitable, discussing the purpose of it with alumni representatives and with the university faculty and corporation. The decision finally reached and unanimously accepted was that a plan such as the scholarship fund should be adopted in that it embodies both educational service and educational ideals."

\$300,000 Gift to College

WASHINGTON, PA.—Dr. James H. Case Jr., president of Washington and Jefferson College, recently announced receipt of a \$300,000 gift from the W. L. and May T. Mellon Foundation of Pittsburgh for construction of a residence hall. It is the largest single gift ever received by Washington and Jefferson College.

The gift was made in memory of James Ross Mellon of the class of 1865, father of William Larimer Mellon, one of the donors.

Few Negroes Attracted to Delaware Classes

NEWARK, DEL.—Although the University of Delaware, for the first time in its history, opened its doors last January to Negroes, few advanced students of the Negro race are taking advantage of the opportunity.

The university acted soon after the Supreme Court's decision in the Sipuel case, which held that public institutions must provide equal educational opportunities to all applicants "at the same time those opportunities are extended to whites." The University of Delaware then declared that Negro students would be admitted to on-campus courses not offered by the Negro State College at Dover.

President Carlson reports: "Six Negroes have been studying in academic extension courses offered by the University of Delaware; one of these persons in a course taught on the campus, and the others in courses taught at Wilmington and Dover. All are graduate students in education.

"No Negroes have been admitted to regular on-campus courses as either full-time undergraduate or graduate students. The few applications received since January 31 have been referred to the Delaware State College at Dover (Negro) since the work desired by those applicants was available there."

Advocates FM Radio Stations for Colleges

WASHINGTON, D.C.—Every college and university in the country can and should have its own low-powered FM radio station, says the Federal Communications Commission.

The F.C.C. is willing to change some of its technical rules so as to permit hundreds of 3 to 5 watt FM stations to go on the air with noncommercial educational radio programs.

Chief advantage of the low-powered radio station is the small cost of equipment required to provide satisfactory service. Only several thousand dollars, says the F.C.C., are needed to build a radio station of 3 to 5 watts, sufficient to cover distances from three to six miles. Stations could later increase their power as rapidly as they wished.

Programs broadcast by a low-powered station can be received on ordinary FM sets, now appearing on the market in mass quantities.

GIFTS AND BEQUESTS

- Stanford University will soon be able to extend substantial scholarship aid to outstanding students selected for leadership qualities as a result of a \$50,000 grant from the George F. Baker Trust of New York. The scholarships will be awarded during three consecutive years and will continue through the four year undergraduate training of the recipients. The value of the scholarship will vary from \$1000 to \$1200 a year for the four year period.

- Ohio State University's development fund recently announced receipt of a gift of \$15,150 from the Grant Foundation, Inc., of New York City to support two research projects in visual perception. Purpose of the studies will be to analyze the process of learning when activities to be learned are dependent on seeing and to develop methods of teaching that increase efficiency in the learning of activities dependent on seeing.

- Stanford University has been presented with \$41,000 for a fellowship in ophthalmology by a sorority. The gift, representing proceeds of the sale of the Delta Gamma house following dissolution of Stanford sororities in 1944, was voted by alumni of Upsilon chapter in a poll taken late in 1947.

- The Westinghouse Science Scholarship Fund announced that a high school senior named in 1949 as the most promising young scientist with research ability in America will receive a scholarship of \$2800 to continue his education. This scholarship will be the largest given in the annual search conducted through Science Clubs of America.

- University of Illinois administrators recently announced that the late William T. Rogers of Buffalo, Ill., left his estate valued at \$100,000 to be used as a loan fund for deserving students. Mr. Rogers had never seen the University of Illinois, it is reported.

- University of Cincinnati's board of directors announced that \$200,000 had been received as a bequest from the Eleanor C. Alms estate. The money is to provide a building to be known as the Frederick H. and Eleanor C. Alms Building and will house the university's college of applied arts. On the first floor will be quarters for the student health service.

NAMES IN THE NEWS

Wilbur C. Munnecke, vice president of the University of Chicago and secretary of its board of trustees for the last four years, has accepted appointment as administrative vice president of Encyclopaedia Britannica, Inc. His appointment became effective July 1, the day following his resignation from the university. Before joining the university administrative staff he had been a vice president and general operating manager of Marshall Field and Company.

Edward W. Seay, director of admissions and associate professor of economics at Knox College since 1943, has been elected the eighth president of Centenary Junior College, Hackettstown, N.J.



Joseph C. Wagner, formerly executive assistant to the controller of Ball State Teachers College, succeeds the late W. E. Wagoner as controller, according to a recent announcement by Dr. John R. Emens, president. He has been acting controller since May 20.

Dr. Harlan H. Hatcher, dean of the college of arts and sciences at Ohio State University, has been appointed vice president of the university in charge of faculty and instruction. Dr. Hatcher has been a member of the faculty since 1922, when he joined the staff as an instructor in the English department.

Everett H. Breed, San Francisco certified public accountant, recently was named assistant controller of Stanford, according to an announcement by Dr. Alvin C. Eurich, acting president of the university. Mr. Breed succeeds William Brand, who has joined the business staff of the University of Washington.





John F. Meck Jr., attorney of Washington, D.C., has been named to succeed **Halsey C. Edgerton** as treasurer of Dartmouth College on July 1 of next

year. Mr. Edgerton has been treasurer of the college for the last thirty-two years. Mr. Meck, formerly assistant dean at Yale Law School and later an officer with the bureau of naval personnel, recently served as executive secretary of a committee which formulated the new faculty salary policy at Dartmouth.

Rev. Paul C. Reinert, S.J., dean of the college of arts and sciences at St. Louis University, has been appointed to the newly created post of vice president of the university, according to a recent announcement by the Very Rev. Patrick J. Holloran, S.J., president of the university.



I. L. BALDWIN

A. W. Peterson, formerly director of business and finance at the University of Wisconsin, has been named vice president of business and finance. The appointment became effective July 1. Mr. Peterson will continue in his capacity as secretary of the board of regents for the university. **Dr. Ira L. Baldwin**, formerly dean of the college of agriculture, has been named vice president of academic affairs at Wisconsin.

Henry K. Stanford, former director of the school of public administration at the University of Denver, has been appointed president of Georgia Southwestern College at Americus, Ga.



A. W. PETERSON

Frederick A. Morse, formerly executive assistant for higher education in the New York State Education Department, has been named to succeed **Asa**



Smallidge Knowles as president of the Associated Colleges of Upper New York. Mr. Morse assumed his new duties July 15.

Harold E. Stassen, former governor of Minnesota and recent contender for the Republican nomination for president of the United States, has been appointed president of the University of Pennsylvania. Mr. Stassen indicated he would participate in the forthcoming presidential campaign before assuming the university post. He will succeed **George W. McClelland**, who is retiring because of ill health.

Detlev W. Bronk, director of the Johnson Foundation and professor of biophysics at the University of Pennsylvania, has been appointed president of Johns Hopkins University and will succeed **Dr. Isaiah Bowman** in that post on January 1. Dr. Bowman has been president of Johns Hopkins since 1935. Dr. Bronk will become the sixth person to head the university since its founding in 1876.

Dr. Warren E. Wilson has been named president of South Dakota School of Mines and Technology at Rapid City, S.D. He succeeds **Earl D. Dake**, acting president since the death of **Joseph P. Connolly** last October. Mr. Dake will continue as vice president.

Lewis A. Froman, dean of Millard Fillmore College of the University of Buffalo, has been named the fourth president of Russell Sage College, according to a recent announcement by **Stephen H. Sampson**, chairman of the Russell Sage College board of trustees. Dr. Froman succeeds **Helen McKinstry**, who resigned the presidency because of ill health. Dr. Froman will take office September 1.

Jesse H. Horner, bursar and assistant treasurer of Antioch College since 1941, died recently. He was one of the first employees chosen by **Arthur E. Morgan** when that former Antioch president revised the college program and instituted the cooperative plan of education.

DIRECTORY OF ASSOCIATIONS

Association of College and University Business Officers

Central Association

President: **Herbert Watkins**, University of Michigan; secretary-treasurer: **L. R. Lunden**, University of Minnesota.

Eastern Association

President: **Henry W. Herzog**, George Washington University; secretary-treasurer: **Boardman Bump**, Mount Holyoke College. Convention: Nov. 28-30, Mayflower Hotel, Washington, D.C.

Southern Association

President: **W. T. Ingram**, Alabama Polytechnic Institute; secretary-treasurer: **Gerald D. Henderson**, Vanderbilt University.

Western Association

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PRODUCT INFORMATION

Information on the materials, equipment and supplies with which an institution is built, operated and maintained and which are used in its various departments is of vital interest to those charged with the business operation. College and University Business recognizes the importance of this information and believes it has rendered a real service by grouping manufacturers' announcements and new product descriptions into a separate part of the magazine. We believe this is an infinitely better plan than to mix such information through the editorial pages where it becomes obscure and confusing.

You will find manufacturers' advertisements from pages 41 through 64. Pages 62-63 contain descriptions of new products and items of interest. Further details on any product advertised or described may be obtained without obligation and with a minimum of effort by use of the postcard below.

INDEX TO ADVERTISERS ON FOLLOWING PAGE

**USE THIS
CARD** 

This card is detachable and is provided for your convenience in obtaining information on all items advertised in this issue or described in the "What's New" Section. See reverse side.

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WOMEN
WORK

Index to Products Advertised



Key	Page	Key	Page
268 American Floor Surfacing Machine Co. Floor Machine.....	64	286 Michaels Art Bronze Co. Exhibit Cases.....	58
269 American Mat Corporation Corrugated Matting.....	60	287 Moore, Inc., P. O. Key Control.....	46
270 Applegate Chemical Co. Marking Equipment.....	56	288 National Chemical & Mfg. Co. Paint.....	52
271 Bausch and Lomb Optical Company Photomicrographic Equipment.....	3rd cover	289 Newman Brothers, Inc. Memorial Tablets.....	52
272 Bell & Howell Company Movie Projector.....	49	290 Powers Regulator Co. Shower Mixers.....	52
273 Carrom Industries, Inc. Institutional Furniture.....	48	291 Powers Regulator Co. Temperature Control.....	60
274 Clark Linen & Equipment Co. Institutional Furnishings.....	46	292 Presto Recording Corp. Recording Equipment.....	44
275 Crane Company Plumbing Equipment.....	47	293 Radio Corporation of America Movie Projector.....	51
276 Da-Lite Screen Co., Inc. Projection Screen.....	61	294 Remington Rand, Inc. Library Furniture.....	55
277 Detroit-Michigan Stove Co. Kitchen Equipment.....	41	295 Ric-wil. Company Housing Book.....	45
278 Dudley Lock Corporation Locks.....	52	296 Sexton & Company, John Institutional Food.....	4th cover
279 General Fireproofing Company Aluminum Furniture.....	57	297 Sloan Valve Company Flash Valves.....	42
280 Hamilton Manufacturing Co. Laboratory Furniture.....	54	298 United Investment Counsel Institutional Financing.....	46
281 Huntington Laboratories, Inc. Floor Maintenance.....	61	299 Universal Bleacher Co. Portable Bleachers.....	54
282 Lawson Associates, Inc., B. H. Institutional Finance.....	43	300 Universal Equipment Company Institutional Furnishings.....	53
283 Legge Co., Inc., Walter C. Floor Maintenance.....	59	301 Vestal, Inc. Floor Maintenance.....	56
284 McArthur & Sons, Geo. School Towels.....	60	302 Vogel-Peterson Co. Coat and Hat Racks.....	46
285 Medart Products, Inc., Fred Gymnasium Equipment.....	50	303 West Disinfecting Company Insect Control.....	50
		304 Wickwire Spencer Steel Div. Wire Fence.....	60

Index to "What's New"

Pages 62-63

Key	Page
253 The Peabody Company Tablet Arm Chair	
254 Exacutone, Inc. Intercom Booster Amplifier	
255 The Markham Mfg. Co. Dust Mop Cleaner	
256 The American Mat Corp. Country Club Matting	
257 United States Radiator Corp. Baseboard Convectors	
258 Frick Company "New Eclipse" Compressors	
259 Dyphenol Co. Q-Tabs	
260 Barton Manufacturing Co. Barton Laundry Drier	
261 Walky Service Company "Walky-Tork"	
262 Temprite Products Corp. Drinking Water Cooler	

August, 1948

Please ask the manufacturers, indicated by the numbers I have circled, to send further literature and information provided there is no charge or obligation.

WHAT'S NEW

253	258	263	268	274	280	286	292	298	304
254	260	266	269	275	281	287	293	299	
255	261	267	270	276	282	288	294	300	
256	262		271	277	283	289	295	301	
257	263		272	278	284	290	296	302	
258	264		273	279	285	291	297	303	

ADVERTISEMENTS

263 Roseman Tractor & Mower Co. Park Challenger Mower
264 American Floor Surfacing Machine Co. New York Office
265 Pfaelzer Brothers Food Specialty Division
266 Royal Metal Mfg. Co. Free Maintenance Service

267 The Stromberg-Carlson Co. Absorption of Liberty Corlions, Inc.

NAME	TITLE
INSTITUTION	
ADDRESS	CITY
	ZONE
	STATE

HOLD EVERYTHING

NEW
VALUE

NEW
DESIGN



Garland No. 45-29-CX.
All Hot Top Range with High Shelf

NEW
CONVENIENCE

22 NEW
FEATURES

NEW
OVEN HEAT
CONTROL

NEW
OVEN
PERFORMANCE

22 New Features Put Garland Still Farther Ahead in Value.

New features you'll say are right on every count.

New Flo-Line Design—from high shelf to base.

New Larger Even-Temp Oven—with special new non-clog lighting tube.

New Loop-Style Oven Burner—improves heat distribution.

New System of Flue Ventilation—for still greater economy.

New Dura-Bilt Oven Heat Control.

New Type Under-Lock High Shelf Brackets—removes last obstruction on cooking top.

New Co-Designed Matching Attachments.

Add these to the host of other well known Garland features. Remember that Garland, and Garland alone, gives you a front-fired hot top. For downright value, you'll find Garland's got it. Hold everything till you see the new Garland line. Call or visit your Garland dealer now!

All models available in stainless steel! All models available for use with manufactured, natural or L-P gases.

SEE

GARLAND

Product of Detroit-Michigan Stove Co.
Detroit 31, Michigan



*unequalled records show
maintenance costs as low as $\frac{1}{4}\text{¢}$ per valve per year*

SLOAN Flush VALVES



SLOAN VALVE COMPANY • CHICAGO • ILLINOIS



Raising Money... Winning Friends

Good fund-raising is directed toward raising money—definite results which can be measured in the sum obtained in gifts.

But equally important are the by-products of a fund-raising campaign under intelligent and experienced direction: good will, public interest, increased prestige.

The impressions you make upon your public during a fund-raising campaign, when your institution is subjected to critical view even more than during normal periods, must be good ones.

Thus, a double responsibility is placed upon professional fund-raising counsel. This firm knows that it must not only obtain the sum needed by the institution, it must create lasting good will—good will which will pay dividends over the years.

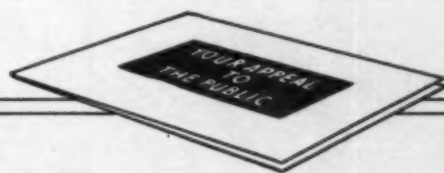
If you are considering an appeal to the public for funds, we would be pleased to have our representative call without obligation to explain our services and their cost.

An illustrated brochure, "Your Appeal to the Public," explaining the professional direction of fund-raising campaigns, is available upon written request.

B. H. Lawson Associates

INCORPORATED

200 Sunrise Highway • Rockville Center, New York



MODERN SCHOOLS NEED MODERN EQUIPMENT

PRESTO RECORDING EQUIPMENT

gives you a Recorder, a Public Address System and a Record Player

*...all
in
one*



Speech correction



Voice training



Languages



Recording Programs

MORE SCHOOLS use Presto than use any other recording equipment. The reason is simply this: the disc has proved to be the most universally useful recording medium and in Presto equipment reaches its highest level of quality and reliability. More than just a recorder, Presto is also a public address system and a record player.

You know how essential Presto can be for speech correction, voice training and teaching languages. Less obvious, but of equal importance, is the use you'll make of Presto in recording plays, choral work, classroom progress and many other activities in accordance with modern teaching techniques. You can also record notable radio broadcasts.

Model Y is the most economical, fully professional 16" recorder on the market. Model K is Presto's lowest priced complete unit. Both models operate efficiently as public address systems and record players for audiences as large as 500 people. In addition, Model Y high fidelity permits the making of master recordings from which phonograph records can be pressed in any quantity.

Write today for complete specifications and full information concerning the Presto model best for your needs.

These are only a few of the ways you'll use Presto



Model Y, at top—amplifier, 16" turntable and 10" speaker pack in two easy-to-carry units, the speaker section is cover for amplifier. Speeds: 33 1/3 and 78 rpm. **Model K**, above—light and compact, complete in a single carrying case. Sets up for operation in minutes. 12" turntable. Speeds: 33 1/3 and 78 rpm.

PRESTO

RECORDING CORPORATION

Paramus, New Jersey

Mailing Address: P.O. Box 500, Hackensack, N. J.

In Canada: WALTER P. DOWNS, Ltd., Dominion Sq. Bldg., Montreal



... a book that tackles the Housing Problem in a Businesslike way!

EVERYONE CONCERNED with the seriousness of America's housing problem will want a copy of this book, just off the press.

Here is a straightforward statement of all the issues and factors involved in the housing problem and an equally frank presentation of a definite plan for solving it. It is comprehensive and completely to the point, we believe, and should be of positive value to every individual who has an interest in this subject.

The book includes a summary of all the principal housing proposals advanced by prominent civic leaders. It reviews the steps being taken by various cities for planned community development, and points the way to more widespread planning of this type on a broader scale. Emphasis is placed upon the necessity for adequate utility service planning in such developments and a clear cut case is made for the inclusion of centralized community heating as one of the essential utility services. Attention is also directed to the factors of fuel availability and fuel costs as being among the most important influences in community development planning.

A study of a community development of 15,900 individual homes is another important feature of

the book. This section includes a detailed engineering analysis, by a nationally prominent consulting engineer, of the recommended central heating system, comparing its construction and operating costs with the corresponding costs of individual heating plants for each separate dwelling unit.

An informative appendix comprises a resume of some twelve major housing developments sponsored by major life insurance companies and saving banks, with particular attention given to the heating systems of each project.

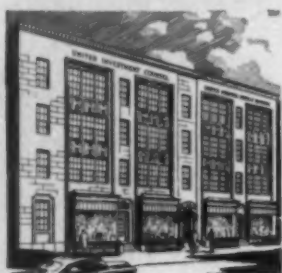
This book is not a piece of advertising, but a practical reference on the status of mass housing to date, for the use of anyone actively interested in housing developments. If you have bona fide use for it, please write us on your business stationery and we shall be glad to forward you a copy without charge or obligation.

RIC-WIL

INSULATED PIPING SYSTEMS

THE RIC-WIL COMPANY • CLEVELAND, OHIO

REPRESENTATIVES IN PRINCIPAL CITIES



UNITED INVESTMENT COUNSEL

Providing specialized assistance in the investing of funds for Educational, Charitable and other institutions.



Write to Mr. C. L. Thomas or Mr. M. F. Willoughby for full details.

UNITED INVESTMENT COUNSEL
UNITED BUSINESS SERVICE BUILDING
210 Newbury Street Boston 16, Mass.

Checker COAT and HAT RACKS



MODERN STEEL CONSTRUCTION

Come in convenient lengths to fit anywhere.

Individual coat rack units for self-service to complete Checkroom layouts with the "One Check" numbering system.

Widely used in industry—placed near point of work. Keep wraps aired and in press—save space.

Stationary and Portable units.

WRITE FOR BULLETIN No. A-16



VOGEL-PETERSON CO.

"The Checkroom People"

624 SOUTH MICHIGAN AVE.

CHICAGO 5, U.S.A.

KEY TROUBLES NOW DISAPPEAR LIKE MAGIC



TELKEE
Reg. U.S. Pat. Off.

1 TelKee is a tried and proven Visible Key-Filing—Key-FINDING System.

2 Whether there are a few keys or thousands of keys—TelKee is simple and effective.

3 It is the perfect system for knowing your keys—knowing where they are when you want to use them.

Visible Key Control
SYSTEM

is the Answer!

Write for Circular.

P. O. MOORE, INC.
298 Fourth Ave.
New York 10, N. Y.

4 TelKee retains a Reserve-Pattern key—never loaned. Tells you to whom other keys have been loaned.

5 Your keys are identified only by the special TelKee Cross Index—Positive Control.

6 New instruction booklet based on 16 years' experience makes it easy to set up and operate.

**50TH
YEAR**
1898 - 1948

As always EVERY ITEM
**UNCONDITIONALLY
GUARANTEED**

Consult Our
**CONTRACT
DIVISION**

Complete Room
and
Lobby Ensembles
Decorative
Layouts
Furnished

**Dependable
Source for ...**

**LINENS
TOWELS
SPREADS
BLANKETS
DRAPERIES
CURTAINS
FABRICS
CARPETS
FURNITURE
SILVERWARE**

Established 1898

CUB 8-48

Clark Linen & Equipment Co.

303 W. MONROE ST., CHICAGO 6, ILL.
3841 N.E. 2ND AVE., MIAMI 37, FLA.

Now is Modernization time

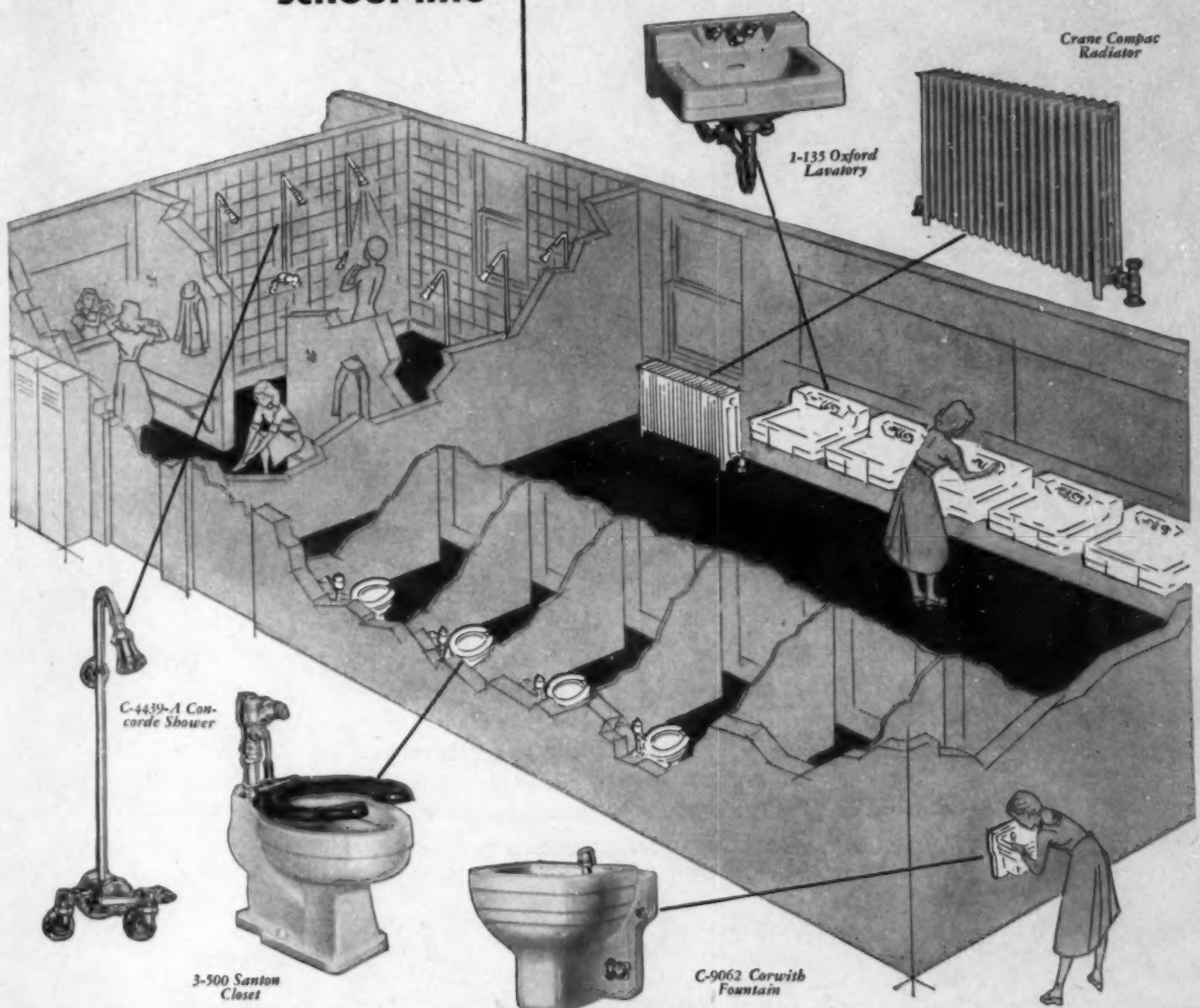
choose new plumbing
now from the
C R A N E
school line

● NOW—as the time draws near when your students again prepare for school—now is your best chance to prepare the school for them.

There is no better place to start modernizing than in your school washrooms—and no better choice than Crane for all your plumbing needs. In schools, as elsewhere, Crane is the best-known name in plumbing.

And for good reason! Crane school fixtures are *tough*—built for years of hard usage. They're *safe*—providing extra health safeguards for the students in your care. And, finally, Crane school fixtures are *economical*—easy to clean, easy to maintain.

Ask your Crane branch, wholesaler, or plumbing contractor for full information on the Crane school line, whether you plan additions to your present facilities or a complete new plumbing installation.



C R A N E

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5
PLUMBING AND HEATING
VALVES • FITTINGS • PIPE

WOOD *unchallenged for grace and charm!*



CARROM DORMITORY SUITE "Y"—The simple yet dignified character of this suite makes an exceptionally attractive and "homey" room . . . ideal for study and relaxation.

CARROM FURNITURE CRAFTSMEN

It is not enough that the material used for institutional furniture possess a mechanical strength of *highest* value in its ability to resist bending or compression. It should also possess that intimate and appealing beauty we sometimes define as grace and charm.

Wood is the one material — and the only material — that meets both these requirements. It is the one material of great strength that lends itself to an ease of manipulation that makes possible basic harmony and graceful lines in the finished furniture product.

Build FOR THE DECADES!

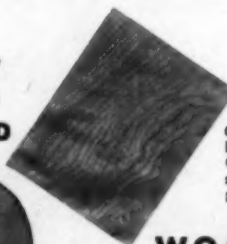
And Carrom-built furniture is especially desirable for still other reasons. Above all, it is made *exclusively* for *institutional use*. It is built to have the *extra strength* in posts, legs, stretchers and joints that hard institutional use requires. It is made with a view to an institution's budget requirements.

Select for strength, for economy, basic harmony, for grace and charm and you will choose Carrom Fine Wood Furniture, made by craftsmen who "build for the decades".

CARROM INDUSTRIES INC., LUDINGTON, MICHIGAN

New York Office: 19 W. 44th St., Ralph Berg • Chicago Office: 1503 N. Sedgwick Ave., James L. Angle

**CAREFULLY
SEASONED
HARDWOOD**



Only the most select, close-grained Northern Hardwoods are used in Carrom construction . . . expertly seasoned and kiln dried in our own plant, under the close supervision of "Masters of Wood"!

CARROM



**WOOD FURNITURE
FOR DORMITORY SERVICE**

NOW... A NEW, LIGHTER

Filmosound

with an amplifier that's not a midget!



- LIGHTER IN WEIGHT BY MANY POUNDS...
- LOWER IN COST BY MANY DOLLARS...
- WITHOUT SACRIFICE OF SOUND VOLUME OR OF THE BELL & HOWELL QUALITY AND FEATURES FOR WHICH FILMOSOUNDS HAVE LONG BEEN PREFERRED IN SCHOOLS

Easy to Carry. The reduced weight is distributed between two cases.

Easy to Set Up. Cables and wires can only be connected correctly.

Easy to Operate. A traditional Filmosound advantage.

Brilliant, Steady, Flickerless Pictures. 1000-watt or 750-watt illumination. Time-tested, highly perfected B&H optical system and film movement and shutter mechanisms.

Natural Sound. New amplifier, offering double the output of midget types, has frequency range from 50 to 7000 cycles. Case absorbs mechanism sounds.

Complete Film Protection. B&H "floating film" construction and other time-proved safeguards.

Versatile. Projects silent films, too. Stops for "still" projection; reverses to run film back for review.

Lifetime Guarantee by the world's largest manufacturer of professional motion picture equipment.



Bell & Howell Company is using portions of its advertisements in such publications as Saturday Evening Post, Life, National Geographic, and Holiday to help impress the public with the urgency of making the teaching profession more attractive to qualified men and women.

Bell & Howell Company, 7192 McCormick Road, Chicago 45. Branches in New York, Hollywood, Washington, D. C., and London.

Presented by
Bell & Howell

Since 1927 the Largest Manufacturer of Professional Motion Picture Equipment for Hollywood and the World

ARE YOU HITTING or MISSING



... with your Present Method of **INSECT CONTROL?**

Seeking a positive "hit-and-kill" way of solving your insect problem? The new WEST VAPOMAT—filled just *once* with West Vaposector Fluid* gives you "sure-fire" control of roaches and similar crawling insects within areas of 50,000 cu. feet. "Effective Kill" of flying insects in areas up to 100,000 cu. feet is also accomplished.

The West Vapomat actually penetrates the "Hidden Breeding Places" in your building—its tiniest cracks and crevices. Completely automatic, economical, light and easy to operate—merely set time clock and plug into AC or DC outlet, no manual attendance required.

A prompt, dramatic demonstration by one of West's trained specialists will quickly convince you! MAKE US PROVE WHAT WE SAY! WRITE US ON YOUR BUSINESS LETTER-HEAD NOW!

* West Vaposector Fluid is obtainable in non-inflammable, odorless and regular forms. Non-toxic as well as non-staining, West Vaposector Fluid is unsurpassed in insect killing efficiency and economy.

PRODUCTS THAT PROMOTE SANITATION

WEST DISINFECTING Company

42-16 WEST ST., LONG ISLAND CITY 1, N. Y.

CLEANSING DISINFECTANTS • INSECTICIDES • KOTEX VENDING MACHINES
PAPER TOWELS • AUTOMATIC DEODORIZING APPLIANCES • LIQUID SOAPS

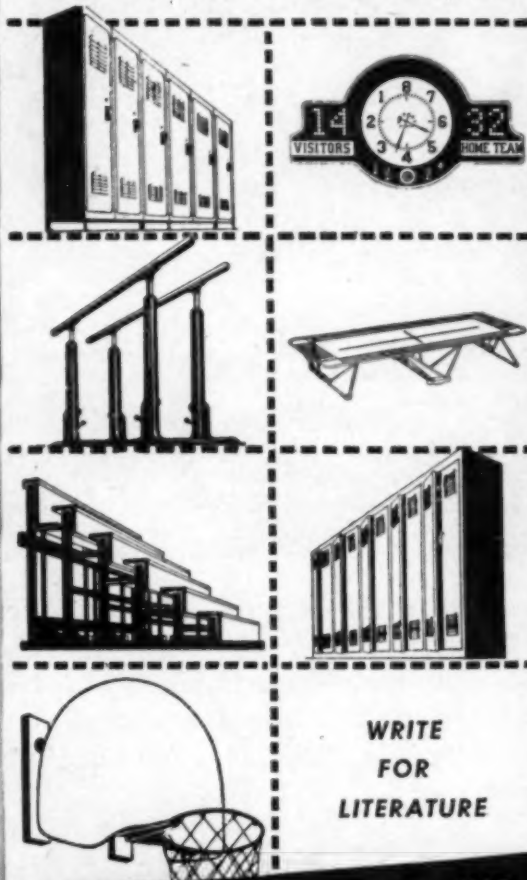
MEDART Leadership

IN SERVING THE NATION'S SCHOOLS

75 years in serving the nation's schools has given Medart unquestioned leadership in the field of gym and locker room equipment and physical educational apparatus. During these years Medart has pioneered the development of new ideas and improvement which has earned for Medart products the slogan "the standard of comparison." Medart leadership and experience are your assurance of sound investment when you buy equipment made by ... Medart of St. Louis.

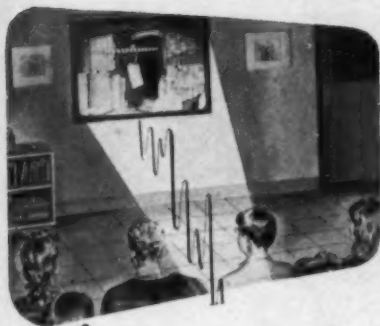
MEDART MAKES . . .

Steel Lockers • Steel Lockerobes • Gymnasium Apparatus • Telescopic Gym Seats
Basketball Backstops • Basketball Scoreboards • and the new Acromat-Trampolin



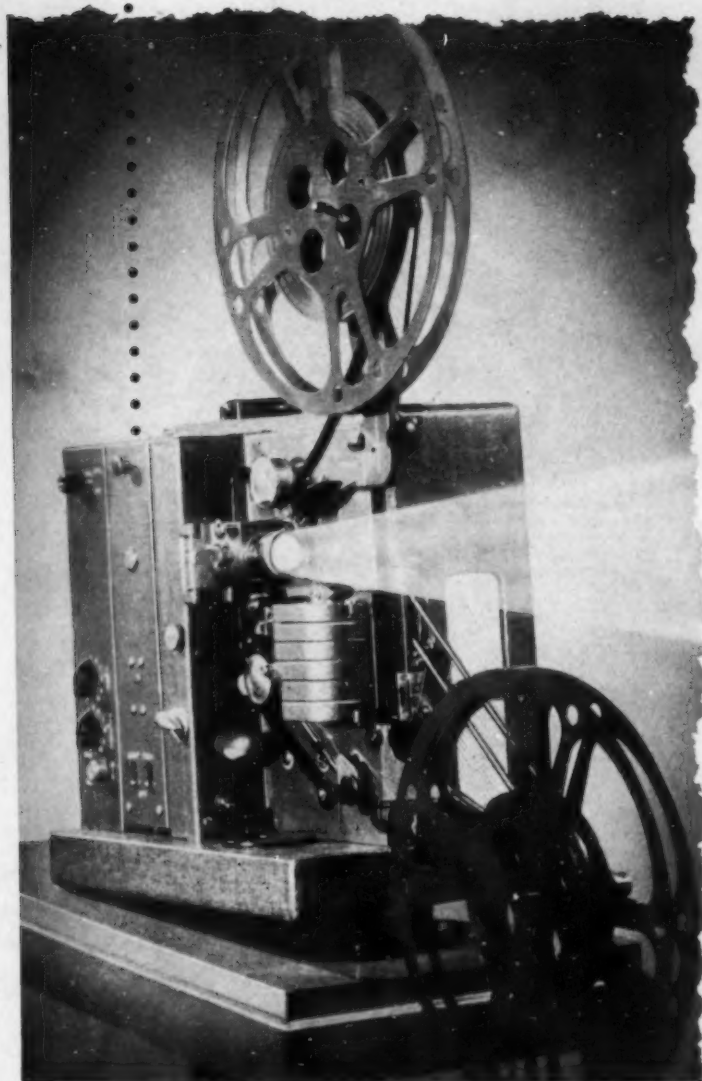
WRITE
FOR
LITERATURE

FRED MEDART PRODUCTS, INC.
3535 DEKALB STREET
ST. LOUIS 18, MISSOURI



... *the new RCA "400"*

best meets your 16mm projection needs
for more effective teaching



the RCA "400" gives you professional quality projection in the screening of black-and-white or full-color 16mm films. Pictures are projected at their best in brilliance . . . sharp in contrast and definition.

Voices, music and sound effects are heard with dramatic realism—just as true and natural as they are recorded in the studio. You have a choice of "Sound" or "Silent" operation by merely turning a knob.

It's so easy to use. All controls are centrally located. Even a child can operate it. Just follow the guide lines embossed on the side of the projector for the threading path of film. The RCA "400" is the easiest of all sound projectors to thread. Re-wind without changing reels or belts. Lighter weight and compactness for easy portability in classroom or auditorium.

There are other advantages in the RCA "400" that make it today's best buy for your school. Plug-in connection for microphone or record player when showing silent films . . . Finger-tip tilt control. Theatrical framing . . . the ALL-PURPOSE projector for school or college.

SEE IT . . . HEAR IT! You can best determine how adequately the RCA "400" meets your needs by making a *proof-test* with your own sound films. For illustrated brochure and name of nearest dealer—write: Sound and Visual Products, Dept. 108 H-V, RCA, Camden, N. J.



FIRST IN SOUND...FINEST IN PROJECTION



SOUND AND VISUAL PRODUCTS
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.

In Canada: RCA VICTOR Company Limited, Montreal

IS COLOR SAFE IN SCHOOLS?

In Texas
schools this
light-reflective
paint gives im-
portant aid to

startling
educational
growth

Send today for literature describing the improve-
ment in educational growth and improved well-
being that comes from modernizing schoolrooms
according to the "Texas Plan" as developed in
the Mexia, Texas, Public Schools under the direc-
tion of Dr. D. B. Harmon.

LUMINALL

Luminall, the light-
reflective paint for
interiors, is one of the
important factors in
securing these benefits
for your students.



your
school can
do it, too!

**END THE DANGER
OF SCALDING
and unexpected
shots of hot or
icy cold water**



Install

**POWERS THERMOSTATIC
SHOWER MIXERS**

They are safe both ways!

Keep shower users happy and safe
with Powers Mixers. They eliminate
danger of scalding and there is no
slipping and falling while trying to
dodge an unexpected change of hot or
cold water temperature.

Being *thermostatic*, Powers Mixers
give *two-way* protection against both
pressure and *temperature* changes in
water supply lines. They are the safest
shower bath regulators made. 481

Phone or write our nearest office for circular H547



TYPE H MIXER
For Exposed Piping

CHICAGO 14, 2706 Greenview Avenue • NEW YORK 17,
231 East 46th St. • LOS ANGELES 5, 1808 West Eighth St.

THE POWERS REGULATOR CO.

OFFICES IN 47 CITIES • SEE YOUR PHONE BOOK

Over 55 years of WATER TEMPERATURE CONTROL

HONOR YOUR HEROES INTO THE AGES



Perpetuate Their Deeds in

FOREVER-LIVING BRONZE

FREE

WRITE FOR
colorful book
showing un-
limited styles
and sizes.

Bronze — "the metal of countless tomor-
rows" will immortalize those who served
in World War II.

TABLETS BY NEWMAN

Internationally famous for fine quality since
1882, genuine hand-chased cast bronze
plaques by NEWMAN record the names of
your student heroes for future emulation.

NOTE: Makers also of bronze, aluminum
and stainless steel letters, doors, entrances,
railings, grilles, etc.

66
YEARS
YOUNG

NEWMAN BROTHERS, Inc.

Dept. 26

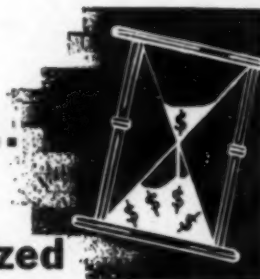
Cincinnati 3, Ohio

You lose...

so do students...

if locker locks

aren't standardized



When locks aren't uniform, just about one-
fifth of all lockers have to be cut open every
year. Stop costly, time-wasting "cutoffs" by
standardizing on Dudley Locks. Dependable
Dudleys are Master-Charted for instant open-
ing by authorized person.

**RD-2 is rugged,
self-locking**

RD-2

Rotating combination dial, no key
to lose... sturdy mechanism is
student-proof, takes years of abuse
... tough, stainless steel case...
locks automatically, spins dial
away from combination numbers
when hasp is pushed home...
64,000 possible combinations.



■ No budget ex-
pense for school
wide protection
when you use
Dudley Self-Fi-
nancing Plan.
Write for details.

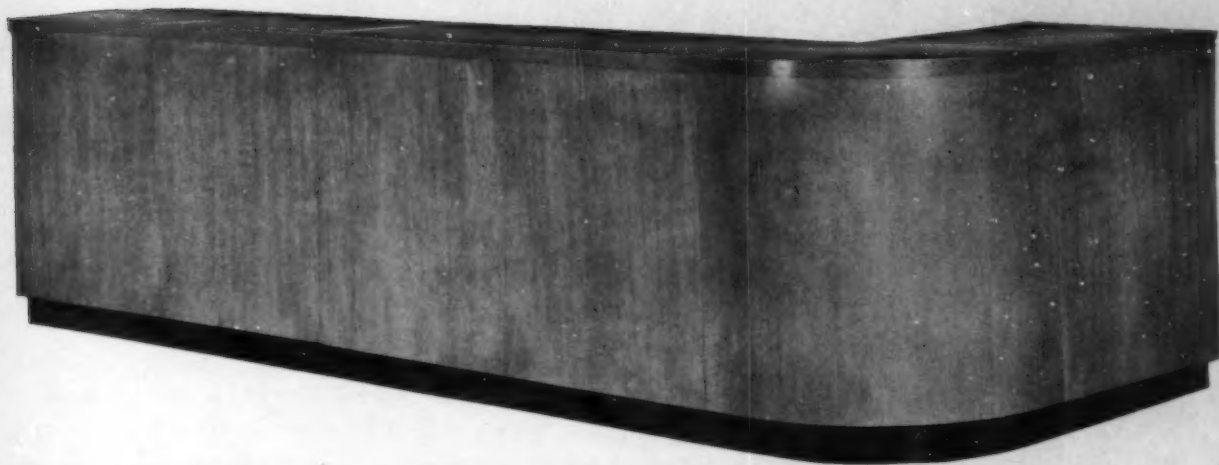
**DUDLEY LOCK
CORPORATION**

Dept. 822, 570 W. Monroe St., Chicago 6, Ill.

COLLEGE and UNIVERSITY BUSINESS



presents the new *TREND* in Functional Library Furniture



Library Bureau presents the new *trend* in functional library furniture . . . endowed with unobtrusive beauty and efficiency.

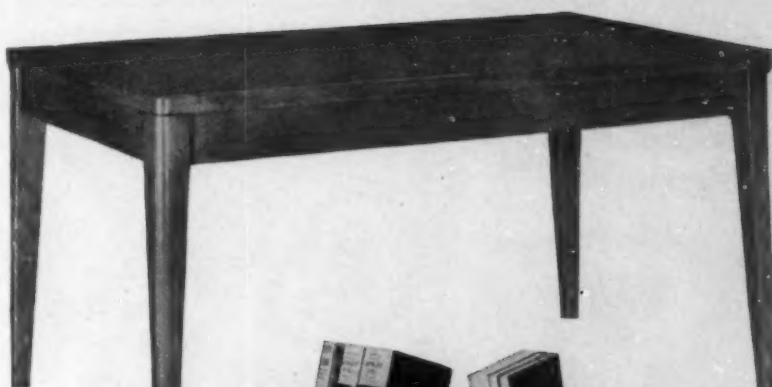
This new specialized furniture includes every unit needed by your library and incorporates the ideas of foremost librarians who cooperated in a two years' styling of plans and models.

The distinguished modern styling wins acclaim everywhere by functionally reducing dust-catchers, splintering, and maintenance. Its warm color tone brightens your library and blends into the décor so that you see a room as a spacious, cheerful unit instead of an area cluttered with dark, bulky furnishings.

Librarians everywhere approve of our new *trend* in library furniture with advance orders totaling several hundred thousands of dollars. You, too, can find new efficiency and beauty by following our new *trend*.

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Why not do it *now*?



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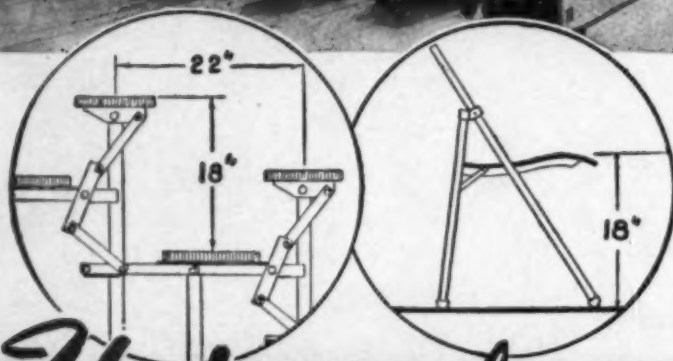
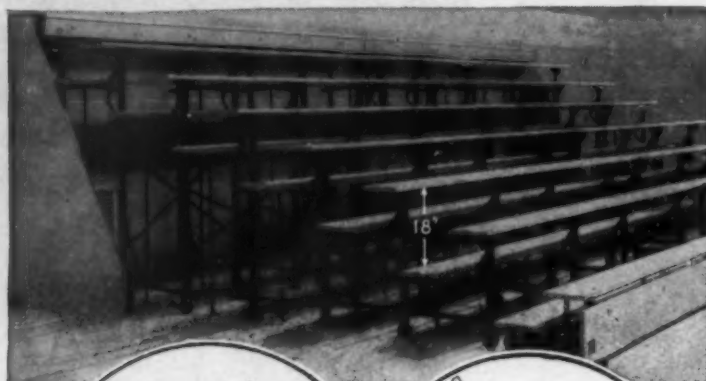
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LB - Originator of Specialized Library Equipment

Universal Roll-A-Way* Gymnasium Stands



**ARE BUILT FOR COMFORT
- - - EASY OPERATION, TOO!**

Every superior element of safety, sturdiness, ease of operation, compactness, etc., is a UNIVERSAL built-in feature. Even though the pay-customers don't realize it—it's there.

But COMFORT is something everyone can feel—and enjoy. That's built-in, too. For instance: The seats are set on 22" centers—to afford plenty of knee room. There's 18" between foot boards and seat boards, for leg room—that's regular Chair Height.

The simple folding arm principle (no close fitting slides to bind) is used to insure ease of operation. Sturdy cross bracing on every vertical seat post absorbs maximum amount of end sway, under highly excited crowds.

**Insist on Safety and Chair Height Comfort,
Universal Has It — and To Spare.**

* Available in any size up to 20 rows high.

Universal

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SIMPLIFY

Your Planning Problems

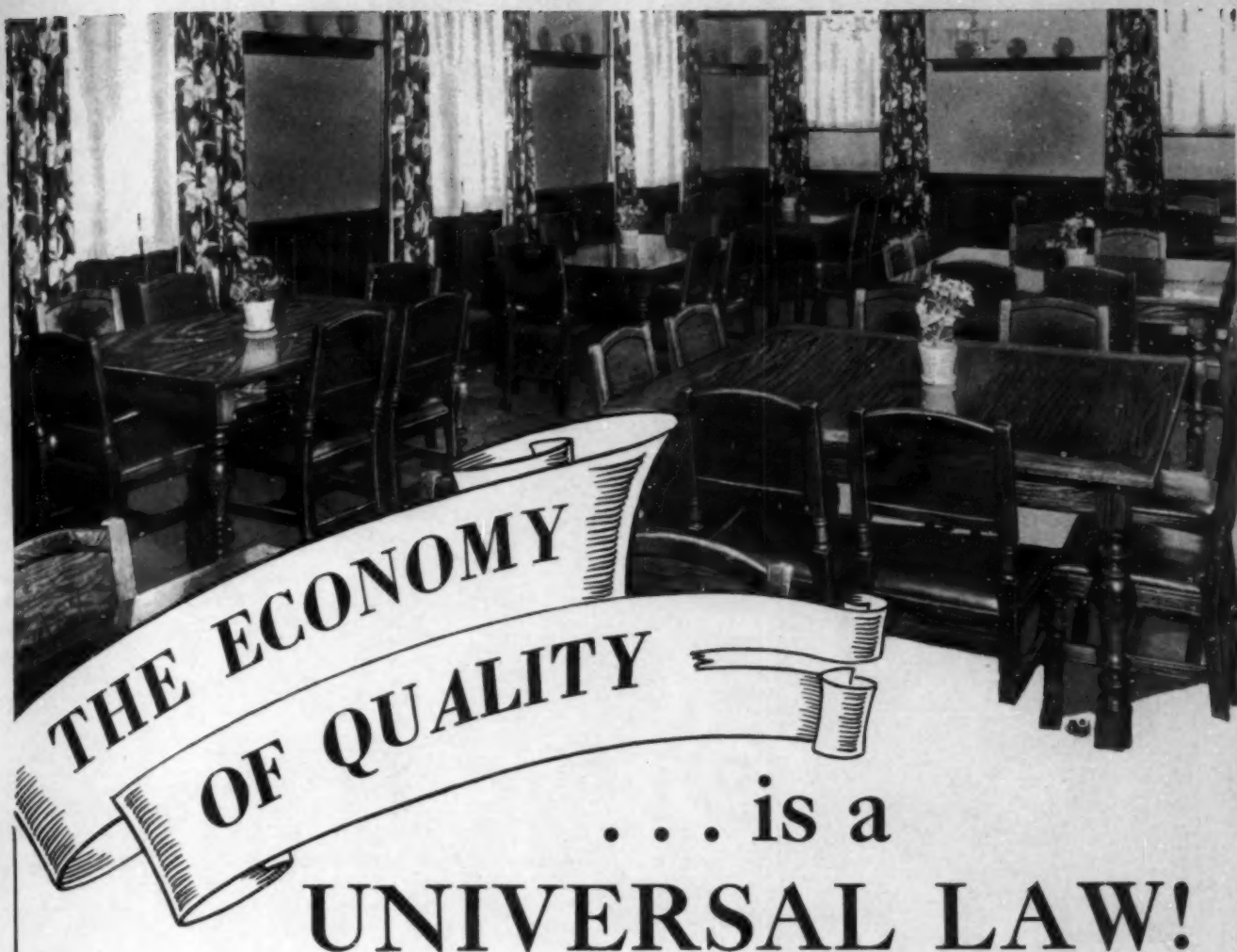
Hamilton offers a creative planning service for practical advice on your individual laboratory installation problems, and modern, functional equipment to fit your specifications. Let us make your planning problems easy. Write Department CUB-8-48 for complete information.

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Chicago, Ill.

HAMILTON MANUFACTURING CO.

TWO RIVERS

• WISCONSIN



... and for more than seventy years, the Universal Equipment Company has given it a practical application in supplying the leading schools and colleges of America with the finest of furniture.

Alert to new materials and processes that make the formula for *quality* in school and college

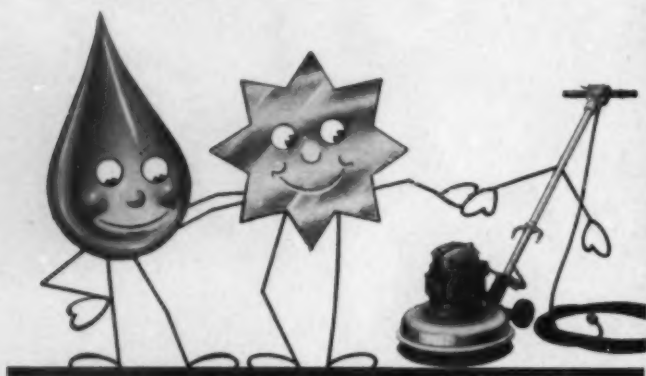
furniture a formula of change and advancement toward more and greater economy, Universal developed Thermoweld Plywood . . . electronically glued lumber cores, stronger than any solid lumber construction, completely eliminating the possibility of cracking and splitting wood.

All solid parts are constructed of Northern Hard Maple or Indiana White Pine, and with the plywood of Thermoweld-Phenolic hot plate construction, furniture is made impervious to water or dampness . . . lastingly beautiful under all climatic conditions.

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EQUIPMENT  COMPANY
FURNITURE FOR SCHOOLS COLLEGES AND LIBRARIES

A DIVISION OF ROMWEBER INDUSTRIES
GENERAL OFFICES AND PLANT, BATESVILLE, INDIANA



**BRITEN-ALL VESTA-GLOSS VESTAL
FLOOR MACHINE**

TEAMWORK MEANS LESS WORK!
Team-up with these three floor protecting partners for safe,
beautiful, "easy-did-it" floors!

BRITEN-ALL • Briten-All is a scientifically prepared cleaner that cleans floors . . . all floors . . . more efficiently because it penetrates into the pores and removes dirt and grime . . . does it quicker, easier and safer than any other method. And it's more economical too—more gallons of more efficient cleaning solution per ounce. Try it.

VESTA-GLOSS • The scientifically prepared waterproof heavy duty floor finish that dries to a bright, uniform lustre, without polishing. VESTA-GLOSS is the one floor finish that combines 1. Protection. 2. Wear Resistance. 3. Water Resistance. 4. Slip Resistance. 5. Lustre. 6. Self Leveling. Approved by flooring manufacturers and leading architects.

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You can shorten your floor scrubbing and polishing operations by using a Vestal Floor Machine and at the same time lower your cost. It scrubs and polishes faster. Sturdy, perfectly balanced construction assures quietness and ease of operation. Vestal's automatic handle switch assures safety from hazards.

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ST. LOUIS NEW YORK

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WITH THE APPLIGATE MOTOR OR
FOOT POWER MARKER

Both hands are free to hold
the coat, sheet or blanket in
the exact position it is to be
marked.

Works faster. Marks name,
department, and date on one
impression. Saves money,
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Applegate indelible ink . . . (silver base) is
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**COLLEGE and UNIVERSITY
BUSINESS**

It's *Goodform* for Lasting Value



Shown in illustration—Chair No. 4307 and Table No. 4206.

GOODFORM Aluminum Chairs and Tables are ideal for the school cafeteria or dining room. They are designed for beauty, comfort and utility.

Sparkling natural aluminum is fresh and inviting in appearance—contrasts effectively with the colorful plastic-coated upholstery fabric used to cover the foam rubber cushioning. Aluminum is fireproof and light in weight. Its hard, smooth anodic finish is easy to keep clean and sanitary.

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grow shabby with age. Welded aluminum frames are permanently rigid and strong. Edges do not get rough and splintery, never snag nylons and clothing. Many thousands of these chairs, in use in cafeterias and restaurants for ten, fifteen or more years, are just as serviceable today as when they were bought.

Goodform Nos. 4307 and 4206 are from a complete line of chairs and tables for school and institutional use. Write us for illustrated literature and the name of our distributor who is prepared to take care of your needs.

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GOODFORM ALUMINUM CHAIRS • METAL DESKS • METAL FILING CABINETS • STEEL SHELVING

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The MICHAELS ART BRONZE Company, Covington, Kentucky

Manufacturers since 1870 of many products in Bronze, Aluminum and other Metals



Who will fill them?

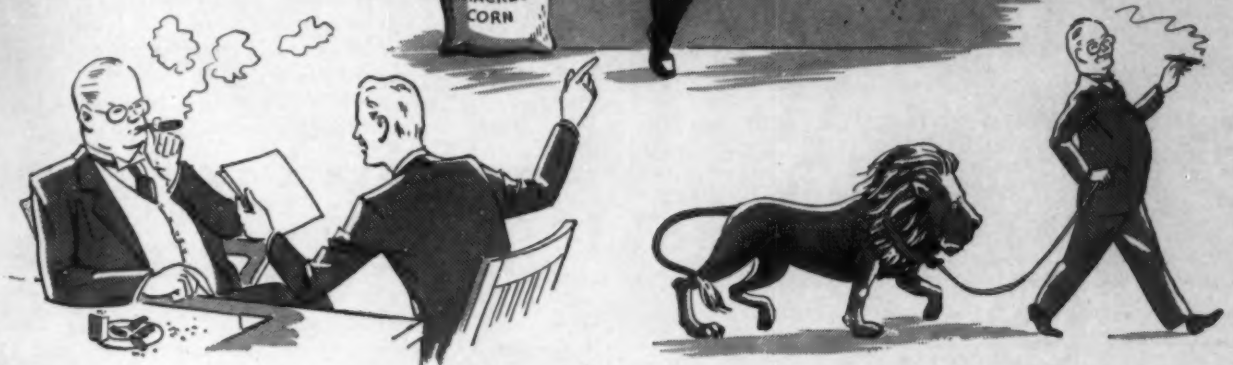
☞ WHO WILL FILL THE SHOES OF THE valued and trusted employe who leaves your college or university? When you set up a new department or when your institution grows to a point where new department heads or assistants are needed, how will you select exactly the right person for the job? There is probably no more difficult and delicate combination of personal qualifications required anywhere than in building an efficient, smoothly functioning college or university organization. You must have a sufficient number of qualified applicants from whom a genuine choice can be made. No matter how excellent the opportunity you

offer, to attract the precisely right person many people must be told about it. Tell them about your opening in a Classified advertisement in **COLLEGE AND UNIVERSITY BUSINESS**. During these days of personnel migration, it is vital to your institution that adequate personnel be secured immediately to replace employes who have accepted appointments elsewhere or to provide necessary staff for new departments. ☞ **COLLEGE AND UNIVERSITY BUSINESS** is the only magazine in the United States reaching the people who would be most interested in your need or availability. Over 5,000 college business managers, comptrollers, purchasing agents, superintendents of buildings and grounds, residence hall directors, and food service managers receive and read **COLLEGE AND UNIVERSITY BUSINESS** every month. You can save time by advertising your personnel needs in the classified advertising section of this magazine.

You can't tame a LION
with Chicken-Feed, Mr. Higby

(Case History #65)

RUN-AWAY upkeep costs had Mr. Higby in a dither. The lion's share went to maintain his building's floors. So he set out to tame them by hunting up "good buys" in wax and cleaners. Yet the lion kept running wild.



Getting the low-down on Leo You're just pinching his tail, a Legge floor specialist told Mr. Higby. Labor takes 75% of your floor dollars; purchases only 25%. So 'bargain' savings are chicken-feed!

Now things purr along With a Legge labor-saving program and materials that work easier, Mr. Higby cut payroll time on a typical floor from 64 man-hours to 6. Overall, he now saves a lion-size 32%.

FREE! THIS BOOK TELLS HOW TO TAME YOUR RUN-AWAY COSTS

Knowing your costs is one half the battle. Developing a corrective program is the other. The story of how Legge technicians can help you with both is told in our free booklet, "Mr. Higby Learned About Floor Safety the Hard Way." It describes how these trained men:

- (1) develop a floor maintenance program tailored to your needs;
- (2) teach your staff scientific, time-saving methods;
- (3) give you polished, Non-Slip floors at savings as high as 82%.



A 10-minute reading of this book may show you how to save much. So send for it, without obligation. Clip the coupon to your letterhead and mail.

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11 West 42nd St., New York 18, N. Y.
360 N. Michigan Ave., Chicago 1, Ill.
Gentlemen:
Please send me your free book, "Mr. Higby Learned About Floor Safety the Hard Way."

Signed _____

Title _____

Type of Floor _____

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FOR LOW COST TEMPERATURE CONTROL

—and a HIGH return on a small investment . . . use Powers No. 11 Regulators on Water Heaters. They stop hot water complaints. Prevent over-heating. Save steam and labor. Often pay back their cost 3 to 6 times a year. Work for only 2 to 3c for a 24 hour day. Many give 10 to 25 years of dependable service. Will simplify your control problem.

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No. 11 REGULATOR FOR Steam Heated Tanks • Vats Dryers • Kettles • Washers For Dishes, Bottles, Cans, Metal Parts Drying and Storage Rooms • Diesel Engine Cooling • Fuel Oil Heaters

Valve Sizes 1/4" to 6"

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FOR A Distinctive ENTRANCE

ADAM

Perforated-Corrugated MATTING



Especially recommended for odd shaped entrances with cutouts, projections or other irregularities. Affords safety underfoot. Has good dirt removing qualities. Long wearing, there are many installations today that are 15 to 20 years old. Will withstand considerable abuse and rough handling.

Available in three thicknesses: 1/4", 3/8" and 1/2" in a variety of attractive colors, including black, grey, brick red, white, blue, green, orange, yellow and dark brown. Any design or special style lettering can be furnished, and in contrasting colors to the main background.

— ALSO —

AMERICAN COUNTER-TRED MATTING
TUF-TRED TIRE FABRIC MATTING
EZY-RUG RUBBER LINK MATTING
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For prices and folder, "A Mat for Every Purpose", write

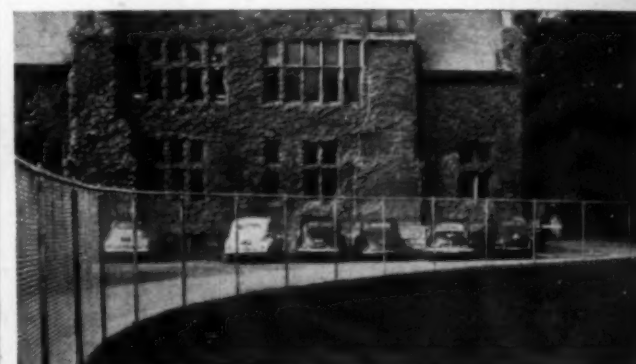
AMERICAN MAT CORPORATION
"America's Largest Matting Specialists"
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McArthur TOWELS

ECONOMY DEPENDS ON COST-PER-USE

The difference between economy and unwise buying is quality. And that's why McArthur Super-Gym and Super-Turk towels have proven so successful and economical in schools and colleges for 26 years. These better towels —woven of 2 ply triple twisted yarns, with heavy woven corded tape edges, actually cost less because they last longer. And don't forget the McArthur free towel repair service which adds even more years of towel-life. For information on fast delivery of all McArthur towels, including the complete medium-priced range, address inquiries to Geo. McArthur & Sons, Inc., Baraboo, Wis.

McARTHUR
SCHOOL TOWELS

REALOCK FENCE

Provides Permanent Property Protection

Used in protection of power plants, schools, reservoirs, hospitals, disposal plants, and similar types of property, a Realock® Fence provides years of trouble-free service. Made of steel wire, heavily galvanized, it is tamper-proof, weather-resistant, low in cost—furnished with or without barbed wire at top.

Let us submit estimates for fence material ready for erection or covering complete installation by trained crews. Write to our nearest office.

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BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

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AND HOW TO REMOVE IT SAFELY!

LET YOUR Huntington salesman help solve your cleaning problems. He will save you time and money. Take floors, for instance. Until Floor-San was developed, you had to keep three or four cleansers on hand all the time... and instruct each new man on how to treat your costly floors. Now you can use just ONE cleaning compound, Floor-San. Write Dept. S-5 for sample and prices.

HUNTINGTON LABORATORIES, INC.

HUNTINGTON, INDIANA



ASK ABOUT
OTHER FLOOR
MAINTENANCE
PRODUCTS



FLOOR-SAN

IT'S SAFE FOR ALL FLOORS

A FINER PORTABLE SCREEN for LARGE Classrooms!

DA-LITE'S

40th ANNIVERSARY MODEL

THE PICTURE-KING

**NEW FROM TOP
TO TENITE FEET**

This latest example of Da-Lite leadership proves that a large screen can be *light, trim, easy-to-handle and beautiful* as well as *rugged*. The fabric-protecting octagon case is finished in blue Hammerloid and has streamlined chrome end caps. Tripod and legs are bright aluminum alloy. Choice of Da-Lite wide-angle Crystal-Beaded or Mat White picture surface. Ask your visual education dealer for the new Da-Lite Picture King!



SEVEN
POPULAR SIZES

45" x 60"	70" x 70"
60" x 60"	63" x 84"
52" x 70"	84" x 84"
72" x 96"	



Advanced Design. Streamlined chrome end caps and concealed gooseneck. Tenite slot plug and collar.

Write for **FREE** sample of Da-Lite Crystal-Beaded fabric and Picture King specification circular 105.

DA-LITE SCREEN COMPANY, INC., Dept. 8CUB
2711 N. Pulaski Rd., Chicago 39, Illinois
Please send a free sample of your Da-Lite Crystal-Beaded Screen fabric, pictures of the Picture King and specification circular.
Name.....
Institution.....
Street..... Zone..... State.....
City.....

DA-LITE

DA-LITE SCREEN COMPANY, INC. 2711 N. Pulaski Rd., CHICAGO 39, ILL.

WHAT'S NEW

AUGUST, 1948

Edited by Bessie Coveri

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 40. Just circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Tablet Arm Chair



An interesting feature of the new tablet arm chair No. 310 developed by Peabody is the redesigned tablet arm which eliminates waste space, utilizes the entire surface area for a natural writing position, permits easier ingress and egress and yet holds the writing surface far enough to the left for comfortable work.

Designed especially as a lecture room unit particularly suitable for high schools and colleges, features of the new chair include a heavy cast base, solid wood tablet arm supported in a firm position by a heavy gauge steel support at the front and fastened securely to a flange which is an integral part of the malleable iron back rail support, and comfortable 5/4 maple saddle seat and steam bent maple rails to promote good posture. This sturdy, fixed lecture room unit is built for long wear, even under severe usage. **The Peabody Company, Dept. CUB, North Manchester, Ind. (Key No. 253)**

Intercom Booster Amplifier

The new compact Model P-29 Booster Amplifier is designed to provide increased paging volume on intercom and sound systems planned to call or page all stations simultaneously. The amplifier increases the power volume needed for adequate coverage of large or noisy areas and offers a practical and economical answer to acoustic problems. When used with existing systems, audibility of stations located in noisy areas is substantially increased. When used with a standard

Executone reply station, the new booster provides audible two-way intercommunication in very noisy locations.

The new unit operates on 110-120 volts, AC or DC, and consumes a maximum of 53 watts of electric current. It is housed in a brown crackle finish metal cabinet of sturdy construction and a combination four-step volume control and on-off switch regulates volume to the desired level. **Executone, Inc., Dept. CUB, 415 Lexington Ave., New York 17. (Key No. 254)**

Dust Mop Cleaner

A new portable dust mop cleaner, which traps the dust in an easily emptied drawer, has been announced. The dusty mop is inserted in the machine, the switch is turned and the mop is



cleaned in a few seconds of all loose dirt and lint in such manner that the dust is completely trapped for later disposal and that mops require less frequent washings.

Equipped with the Haynes suction method of dust extraction, the tight metal cabinet has a quiet, slow speed air turbine which pulls the dust from the mop to a filter. It is sturdily constructed for long service and is equipped with a 110 volt AC motor. The mop cleaner is readily moved with other housekeeping equipment as it is used and should save time and effort while making dusting operations more effective. **The Markham Mfg. Co., Dept. CUB, 1392 W. 110th St., Cleveland 2, Ohio. (Key No. 255)**

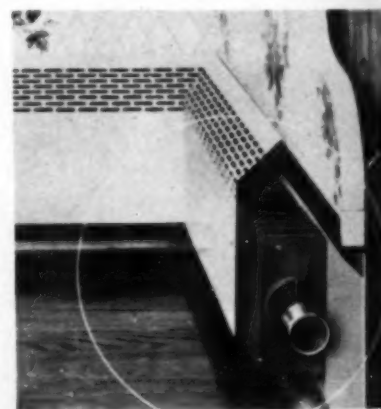
Country Club Matting

A new floor matting designed especially for use in areas encountering exceptionally heavy traffic has recently been announced. Known as Country Club Matting, because it will stand up under the spikes of golf shoes, the matting should prove especially useful in gymnasiums and athletic rooms. Made of high grade rubber and tough cotton cord composition, the matting is black in color, 7/32 inch thick and comes in rolls 3 feet wide and 24 or 48 feet long. **The American Mat Corp., Dept. CUB, 1719 Adams St., Toledo 2, Ohio. (Key No. 256)**

Baseboard Convactor

The U. S. Fin-Ray Baseboard Convactor is a new fin-type steel radiator enclosed with a grilled steel covering plate which is installed around the base of the walls of a room in place of the usual baseboard. The new unit is designed to distribute heat evenly over the wall and window areas, thus providing even temperatures without draft. It can be installed in new or remodelled buildings and the front cover of the convactor, which can be easily removed for cleaning when necessary, can be finished to harmonize with the general color scheme of the room.

The Fin-Ray Baseboard Convactor is designed to increase heat transfer and make heat flow more uniform. Made of high quality steel pipe and rugged, tempered steel fins, the construction of the unit ensures constant rigidity of fin to



pipe under varying temperatures. **United States Radiator Corp., Dept. CUB, Detroit 31, Mich. (Key No. 257)**

"New Eclipse" Compressors

The line of "New Eclipse" compressors for Freon-12 service is designed for any refrigeration need from 5 to 55 tons capacity and is suitable for air conditioning, water cooling, food storage and other uses. The new line is available in four sizes with 2, 3, 4 or 6 cylinders and improvements include higher capacity per horsepower; $4\frac{3}{8}$ inch bore; new plate surrounding the valve area; deeper suction jacket with oil drain and pressure-equalizing device connecting the suction jacket, in each block, to the crankcase and other mechanical details for efficient and dependable service. Frick Company, Dept. CUB, Waynesboro, Pa. (Key No. 258)

Q-Tabs

Q-Tabs are quaternary ammonium germicidal tablets for use in sanitizing eating utensils and other equipment. The tablet form permits exact dilutions to be made without waste of time or material. Q-Tabs are completely soluble in water and leave no sediment or deposit in the solution. They are supplied in cartons of 100 and 200 tablets each. Dyphenol Co., Dept. CUB, 915 Switzer Ave., St. Louis 15, Mo. (Key No. 259)

Barton Laundry Drier

The new Barton Laundry Drier is a stationary type drier with aluminum rods over which the wash is draped for drying. Thus the laundry does not move and is unwrinkled when taken from the drier. The unit is said to dry woollens without shrinkage and to dry the most delicate fabrics without damage.



Heat for the Barton drier is produced by a heavy-duty electric heating element,

equipped with temperature control and an automatic cut-off. Heat is circulated by a motor driven fan. The steel cabinet is finished in white enamel with black and chrome trim. Barton Mfg. Co., Dept. CUB, Kalamazoo, Mich. (Key No. 260)

"Walky-Teria"

A portable or counter vending machine to dispense hot dogs, tamales, peanuts, soft drinks, fruit juices and other packaged foods and drinks has recently been announced. The unit is equipped with a removable steam pan and the all aluminum construction makes it extremely light. A built-in electrical element preheats the inside to any desired temperature up to 250 degrees. Special insulation holds the heat.

The "Walky-Teria" is designed for dispensing hot or cold food and drinks in such places as football stadia, and



other sports areas, or wherever crowds congregate and refreshments are vended. It is supplied with straps for easy portability or can be used on a counter. The new "Walky-Teria" supplements the "Walky-Koffee" unit developed earlier. Walky Service Co., Dept. CUB, Wichita 2, Kans. (Key No. 261)

Drinking Water Cooler

The new Temprite Cooler is a self-contained unit with all stainless steel top and drain assembly and automatic water-flow regulator. The bubbler is so designed that the user's lips cannot come into direct contact with the water nozzle, thus giving maximum sanitary protection. The new unit has a 10 gallon capacity and a glass filler attachment is available as optional equipment. Temprite Products Corp., Dept. CUB, 47 Piquette Ave., Detroit 2, Mich. (Key No. 262)

Park Challenger Mower



The new Roseman Park Challenger Mower is an efficient, low cost, flexible mower consisting of three Roseman Hollow Roller Drive Mowers mounted on the new Ford tractor or the Ford Tractor Ferguson System. The mower, which mows a swath 7 feet wide, is a compact, efficient unit for the maintenance of athletic fields, parkways, large lawns and other turfed areas.

The new machine features a greater degree of traction; elimination of wheel marks; speed of operation; ease of raising the mower hydraulically; ability to cut close to trees and to replace hand operated units; ability to cut ahead of the rear wheels; ability to overhang curbs without dropping off, thus making it possible to cut the edges, and low cost operation. Roseman Tractor & Mower Co., Dept. CUB, Evanston, Ill. (Key No. 263)

Suppliers' Plant News

American Floor Surfacing Machine Co., Toledo 4, Ohio, manufacturer of floor sanders, floor maintenance machines, belt sanders, disc sanders and portable power saws, announces the opening of an office at 670 Sixth Ave., New York, to handle sales and service in the greater New York area. (Key No. 264)

Pfaelzer Brothers, Union Stock Yards, Chicago 9, meat distributors to the institutional field, announces the opening of a Food Specialty Division to handle its dehydrated soups, canned meat and fish products and other items. (Key No. 265)

Royal Metal Mfg. Co., 175 N. Michigan Ave., Chicago 1, manufacturer of metal furniture, announces a written registered policy guaranteeing a 10 year free maintenance service to customers. (Key No. 266)

The Stromberg-Carlson Co., Rochester 3, N. Y., manufacturer of communication systems, announces the absorption of the complete operations of Liberty Carillons, Inc., New York City. (Key No. 267)

NEW

IMPROVED AMERICAN FLOOR MACHINE

Safety-Grip

HANDLE!



Now... new safety and new labor-saving features... in the new Improved American Deluxe Floor Maintenance Machine! It's thoroughly proved—made to meet safety requirements and already in use in a number of U.S. Naval Hospitals... now released for general use!

Safety... see the new Safety-Grip Handle—easy to control with either or both hands. Merely grip the handles to get positive "off-on" action. Machine runs only when you want it—won't start accidentally when plugged in.

See its fresh, clean "New Look"—with highly polished aluminum castings throughout.

Power... see its big power in action—ample for any floor maintenance operation. Maintains full power and brush speed on the smoothest to the most rugged floors. See it now!

AMERICAN

FLOOR MAINTENANCE MACHINES

The American Floor Surfacing Machine Co.
590 So. St. Clair St., Toledo 3, Ohio

- ☐ Send free description and prices.
- ☐ Please arrange a FREE Demonstration of the new American DeLuxe Maintenance Machine with Safety-Grip Handle, no obligation.

Name.....
Street.....
City.....State.....

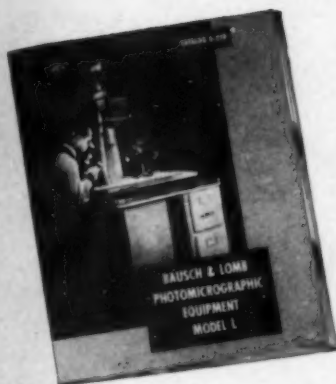


Attachments to maintain all kinds of floors include: Tampico, Mixed Fibre, Palmetto, Bassine, Wire, Steel Wool, Burnishing and Sanding discs. Made in Three Sizes—13, 15 and 17 Inch.

◀ Send coupon for prices or FREE Demonstration!

NEW!

Bausch & Lomb PHOTOMICROGRAPHIC EQUIPMENT Model L



Write For Your Copy
of **NEW CATALOG No. E-210**

... for complete information on how you can apply the numerous, important performance advantages of the new Bausch & Lomb Model L Equipment to *your specific problems*. Address request to Bausch & Lomb Optical Co., 767-U St. Paul St., Rochester, N.Y.

BAUSCH & LOMB

OPTICAL COMPANY



ROCHESTER 2, N. Y.

**NEW ADAPTABILITY,
SPEED, EASE AND
EFFICIENCY IN —**



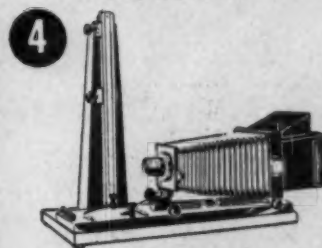
VISUAL MICROSCOPY



**HIGH POWER
PHOTOMICROGRAPHY**
with transparent and
opaque specimens



**LOW POWER
PHOTOMICROGRAPHY**
with transparent and
opaque specimens



PHOTOCOPYING



To each its own ...



Good Food for Pleased Guests

1948 John Sexton & Co.

Good viands deserve the finest embellishment. Each carefully prepared meal demands a garnishment that will give your guest utmost satisfaction. You will be so right if the bottle you place next to that sizzling steak, broiled fish or that crisp salad bears the Sexton label. Sexton sauces are superb condiments made with exactitude in our Sexton Sunshine Kitchens to give individuality to your finest dishes.